OceanView™

The Electronic Chart Office System

User's Manual

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I. INTRODUCTION

OceanView™ is the office electronic chart information system developed by C-MAP in order to meet the market demand for a global marine information system. The main purpose of OceanView™ is maintenance and easy distribution of various types of geo-referenced information using global coverage of electronic navigational charts provided by the world-wide Electronic Chart Database CM-93 Edition 3.0 from C-MAP.

Numerous organizations and commercial companies need updated navigation charts to maintain their own geo-referenced information. Such examples are the Vessel's routing databases maintained by the International Maritime Organization, marine environment monitoring information and spatial analysis of sea incidents etc. In many cases such information should be made available to many persons around the World and should be kept updated. Shipping companies such as ship-owners, shipbrokers, ship managers and ship operators also need updated charts for monitoring their fleets, checking details of the navigation conditions when planning new routes, maintaining a database of their agents and harbour facilities etc. The system can be used for generating and transmitting information to vessels such as storm avoidance recommendations and targeting SAR vessels and helicopters.

OceanView™ is primarily aimed at organizations and commercial companies involved with the management of the shipping business and marine environment protection. Many other potential users such as universities, public libraries, geographic research centers should find it useful for their purposes as well.

OceanView™ is a powerful tool for the creation and distribution of geo-referenced value added information and, as a natural part of CM-93 Edition 3.0 Electronic Chart technology – this is C-MAP contribution to safety of navigation and the environmental protection of our Oceans.

II. GENERAL INFORMATION

1.0 System Requirements

Minimum	Recommended
– PC with 500 MHz or faster Intel Pentium processor	– PC with 1.5 GHz or faster Intel Pentium processor
– Microsoft Windows 2000 Service Pack 4, Windows XP Service Pack 1-2	– Microsoft Windows 2000 Service Pack 4, Windows XP Service Pack 1-2
– RAM 256 MB	– RAM 1 GB
– Screen resolution SVGA 1024x768	– Screen resolution SVGA 1280x1024
– Available hard disk space 200 MB	– Available hard disk space 10 GB
– CD-ROM drive	– DVD-ROM drive
– USB port for eToken	– Internet access
	– USB port for eToken
	– LaserJet or InkJet printer

To provide the possibility to create reports, Microsoft® Word is needed. For viewing 3D graphics, DirectX 9.0c and higher is required.

2.0 Conventions

The OceanView™ User Manual is written under assumption that the user is familiar with the main principles of work in the MS Windows environment and has experience in using MS Windows applications.

For all dialog names, their fields and environment terms this font is used.

Any program messages are marked with italic font: "*Please enter the necessary value.*"

In order to improve information exposition the following logical simplification is used: for example, instead of the expression "the command **Open** in the **File** menu", we will use: "**File > Open**".

Remark _____

When you see this style it means that a topic contains additional information. This information is not crucial for OceanView™ operation but may be useful to completely understand its functions.

Warning! _____

Important information is marked with this style.

3.0 Chart Levels

Chart databases consist of a number of charts. These charts are electronic copies of ordinary paper charts. The charts adjoin to each other and form continuous coverage for the whole geographical area. This area depends on the Chart Zone(s) and Area(s) for which you have licenses. For example, you have purchased a license for the English Channel. It means you have continuous coverage for all waters in and around the English Channel. It looks as if you had a "huge" chart for the whole English Channel and some part of that "huge chart" is displayed on the screen. If you wish, you may switch on the option turning on the display of source paper charts borders (see chapter X.3.0). However, it is not necessary in common case.

At the same time, all paper charts are compiled in different scales. Hereunder these scales are called original chart scales. A scale in that electronic chart is displayed on the screen and is called current scale. You should bear in mind that original chart scale and current scale are not the same. There is an option to synchronize these scales (see chapter VI.2.0), but in general they are different.

Electronic chart database contains copies of paper charts of a wide scale range. And they are grouped in several scale levels. With your current scale you view charts belonging to some scale level. The levels are as follows:

Scale name	Letter symbol	Scale range
Background, small scale	Z (0)	1:5,000,001 – UNLIMITED
Background, medium scale	A (1)	1:1,500,001 – 1:5,000,000
Overview	B (2)	1:500,001 – 1:1,500,000
General	C (3)	1:150,001 – 1:500,000
Coastal	D (4)	1:50,001 – 1:150,000
Approach	E (5)	1:15,001 – 1:50,000
Harbor	F (6)	1:5,001 – 1:15,000
Berthing	G (7)	0 – 1:5,000

For example, when your current scale is 1:100,000, you view charts of the "Coastal" level. When your current scale is 1:40,000, you view charts of the "Approach" level. OceanView™ changes charts in view automatically when you set new current scale corresponding to different scale level.

4.0 Vector Electronic Charts

A vector electronic chart consists of a number of objects. Objects may be of three types:

1) Point objects (buoys, beacons, buildings, spot soundings, etc.)

2) Line objects (depth contours, coast lines, cables, pipelines, recommended tracks, traffic separation lines, etc.)

3) Area objects (land areas, anchorage areas, ice areas, lakes, dredged areas, depth areas, etc.)

Besides objects there is such term as 'attribute'. Almost every object is described by several attributes. An attribute has its own value. For example:

1) Object may have an attribute "Name" and value of this attribute means the name of that object (buoy name, for example).

2) Object may have an attribute "Information" for additional information about that object.

3) Depth contour always has an attribute "Value of depth contour" meaning depth of that contour.

4) Depth area has two attributes: "Depth range value 1" and "Depth range value 2" and these attributes define depth range of the depth area.

Any symbol, line, color, or text displayed on the screen is defined by some object and its attributes contained in the vector electronic chart.

5.0 Licensing

Chart databases are usually stored on a separate CD / DVD which is purchased from C-Map dealers. When purchasing a database you are provided with the database written on a CD / DVD and with a special dongle (eToken).

Remark

eToken is a smart card ensuring protection of C-MAP Chart Database. It should always be plugged in t*he USB slot. If your eToken is not connected, OceanView™ will not display charts (except background charts that are always available) as well as it will not receive updates if you* are *subscribed to th*is *service. With eToken you are able to use your chart database on different computers (you may install the same database on several PC's and transfer the eToken from one PC to another). If you do not have eToken you are only able to use the chart database on a single PC.*

To gain access to cartographic information contained in chart databases from OceanView™, you have to obtain chart licenses. The licenses are available for a worldwide coverage or for any combination of Zones, Areas, or Cells. Please contact C-MAP Norway AS for detailed information (see also chapter IV.7.0). You have to purchase licenses for the coverage you have selected. When purchased, your license is registered in C-MAP Norway AS.

Licenses are provided in files with the .usr extension. You can save the files on your computer or store them on any other media. Licenses serve to decipher cartographic data stored in the chart database and should be registered in the system (see chapter IV.6.0).

There are three different ways for working with OceanView™:

1) Work on a separate computer with a Local license. You may install OceanView™ on your personal computer, apply the license from the file and work independently.

2) Work in a local network on a server computer. You may install OceanView™ on your personal computer and apply a network license. After that you can work with OceanView™ using all its resources. Additionally your network license allows other users to work with OceanView™ resources over a local network. To work with a network license, you should configure the local network in a certain way (see chapter IV.4.0).

3) Work in a local network on a client computer. You may install OceanView™ on your personal computer. No license registration is required in this case. After installation you can connect to the server computer in your network and work with OceanView™ resources. To work with a network license, you should configure the local network in a certain way (see chapter IV.4.0).

A network license allows access to the server to any computer set as client. However the number of clients working simultaneously with the server is restricted. For example, the server license is obtained for 3 users. It means that one person can work on the server computer and two other persons can work with OceanView™ on their networked client computers at the same time.

6.0 Value Added Data and Additional Services

Previous versions of the CM93/3 chart database were used in combination with separately existing Tidal and GMDSS Master Plan databases. All three databases had to be registered in OceanView™ separately. Now Tidal database and GMDSS Master Plan database are included in the chart database as value added data in additional datasets as well as other data such as SAR Regions and Terrain and do not require separate licensing.

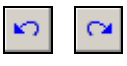
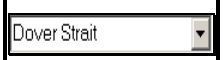
C-MAP Norway offers you a newly developed and effective charts licensing solution called Dynamic Licensing of ENC. Using the Dynamic Licensing service will ease the order process for the mariner making ENC licenses available in seconds automatically via the C-MAP Online Updating Service. Hence all the charts, updates and licenses will be onboard and ready for use without a preordering process through the chart supplier. Cost is controlled via pre-set budgets and spending limits, making the concept "Pay as you go" finally a reality (see chapter V.4.4).

If you have subscribed and are registered at C-MAP Marine Forecast you may get access to Weather forecast data and advanced OceanView™ functionality like weather and alarms along the route (see chapter VII.8.0). For more information please contact C-MAP Norway AS.

If a separate program and database "Ports and Terminals Guide" of Lloyd's Register Fairplay Ltd. is installed on your PC, OceanView™ is able to find ports stored in the database, call the program and find necessary information about selected ports (see chapter VII.14.0).

III. LIST OF FUNCTIONS

Here you can find a short list of functions available in OceanView™. For full description of functions listed here refer to the next part of the OceanView™ User Manual.

FUNCTION	ACCESS	TOOLBAR ICON
1) Viewing electronic navigational charts	AUTO	
a) Any scale	Mouse wheel	
b) Double and half scale	F5, F6	
c) Fixed scale level	Chart > Data Scale Levels	
d) Setting original scale of a chart	Chart > Set Original Scale	
e) Best available scale	Chart > Set Best Scale	
f) Three kinds of presentation models including C-MAP INT 1 and S-52 Chart	Chart > Customize > Settings	
g) Four display types (base, standard, full and custom) defining a number of symbols on a chart	Chart > Customize > Settings	
h) Other settings	Chart > Customize > Presentation	
i) Three palette styles	Chart > Palette	
2) 3D Globe Display		
a) Startup mode	-	
b) Globe 3D/2D switching mode On/Off	-	
c) Globe 3D/2D switching	-	
3) Automatic updating of CM-93/3 database from C-MAP Distribution Center	Data > Chart Management > Updates > Update via Internet	
4) Information about charted objects	RIGHT click on chart	
5) Bookmarks		
a) Access to the whole map	-	
b) Moving to the previous view and back	-	
c) Saving internal bookmarks	-	
d) Opening and deleting internal bookmarks	-	

e) Saving external OVB bookmarks as files and opening them	File > Save as, File > Save, File > Open	
f) Saving external OVD bookmarks as files and opening them	File > Save as, File > Save, File > Open	
6) Multi-windows mode		
a) Creating a new window	File > New	
b) Organizing windows	Window > Cascade, Window > Tile Horizontal, Window > Tile vertical	
c) Closing an opened window	File > Close	
7) Screenshots	File > Export > To Image File	
8) Printing out screenshots directly from OceanView™	File > Print	
9) 3-Dimensional mode	Tools > 3D View	
10) Tools for cartographic measurements		
a) ERBL	Tools > ERBL	
b) A-B function	Tools > Measurement	
11) Tidal calculations	Tools > Tides	
12) Mariner's objects	Data > Mariner Objects	
13) Weather Prediction		
a) Downloading Weather Data	Weather > Download Data	
b) Browse for GRIB File	Weather > Open Data > Browse for GRIB File	
c) Browse for Cyclone File	Weather > Open Data > Browse for Cyclone File	
d) Setting Presentation Parameters	Weather > Weather Presentation	
e) Setting Alarm Zones	Weather > Alarm Area Settings	
f) View Time Series	Weather > Weather Time Series	
g) Pressure Forecast Data	Weather > Weather Presentation > Pressure	

h) Temperature Forecast Data	Weather > Weather Presentation > Temperature	
i) Wind Forecast Data	Weather > Weather Presentation > Wind Vectors	
j) Current Forecast Data	Weather > Weather Presentation > Current vectors	
k) Precipitation Forecast Data	Weather > Weather Presentation > Precipitation	
l) Ice Concentration Forecast Data	Weather > Weather Presentation > Ice concentration	
m) Swell Forecast Data	Weather > Weather Presentation > Swell waves	
n) Total Waves Forecast Data	Weather > Weather Presentation > Total waves	
o) Total Cloud Coverage Forecast Data	Weather > Weather Presentation > Cloud coverage	
p) Sea Surface Temperature Forecast Data	Weather > Weather Presentation > Sea surface temperature	
q) Deviation of Sea Level Forecast Data	Weather > Weather Presentation > Deviation of Sea Level	
r) Alarm Zones	Weather > Weather Presentation > Alarm zone	
s) Tropical Cyclone Warnings	Weather > Weather Presentation > Tropical cyclone	
t) Inspect ship position	Weather > Ship Response > Inspect Ship Position	
u) Ship response options	Weather > Ship Response > Ship Response Options	
14) Value Added Data		
a) Show / hide value added data layers	Value Added Data > Show/Hide Value Added Data	
b) GMDSS Master Plan	Value Added Data > Show GMDSS	
c) SAR Global Plan	Value Added Data > Show SAR	
15) Automatic route calculation	Tools > Route planning > Route Finder	
a) Setting own vessel data	Tools > Route planning > Route finder > Own ship data	

b) Selecting ports	Tools > Route planning > Route Finder > Add to Itinerary	
c) Adding waypoints user's waypoints	Tools > Route planning > Route Finder > Add to Itinerary	
d) Adding user's restrictions	Tools > Route planning > Route Finder > Add restriction	
e) Enabling / Disabling common passages	Tools > Route planning > Route Finder > Disabled passages	
f) Automatic route calculation	Tools > Route planning > Route Finder > Calculate	
16) Route planning functions	Tools > Route planning > Route Planning	
a) Plotting route on the chart	Tools > Route planning > Route Planning	
b) Adding Critical points	Tools > Route planning > Route Planning > Critical points	
c) Turn radius setting	Tools > Route planning > Route Planning > Waypoints	
d) Cross track error (XTE)	Tools > Route planning > Route Planning > Waypoints	
e) Passage plan export to MS Word and print out	Tools > Route planning > Route Planning > Export to MS Word	
f) Export/Import routes	Tools > Export & Import > Routes	
17) Voyage planning functions	Tools > Route planning	
a) Voyage schedule	Tools > Route planning > Route Planning > Schedule	
b) Voyage report	Tools > Route planning > Voyage report	
c) Bunker calculation	Tools > Route planning > Voyage report > Bunker/Costs	
18) AIS		

a) AIS activation	AIS > AIS	
b) AIS monitor	AIS > AIS Monitor	
c) AIS configuration	AIS > AIS In/Out Config	
19) User databases		
a) Creation of four types of user's own objects: point, note, line and area	Database > Open Database	
b) Editing objects	Objects > Edit	
c) Updating and Cancelling changes	Objects > Update, Objects > Cancel	
d) Typing coordinates in	Database > Open Database	
e) Personal or group style	Objects > Style	
f) Tool tips	Database > Open Database	
g) Objects table	Database > Open Database	
h) Access to objects from the table	Database > Open Database	
i) URL access	Objects > Go to URL	
j) E-mail access	Objects > E-Mail to	
k) Search and select functions	Edit > Find	
l) Export of objects	Database > Export > External OceanView file	
m) Import of objects	Database – Import	
n) Export database into MS Word	Database > Export > Microsoft Word	
20) Linking external Databases to OceanView™	Database > Database Wizard	

IV. GETTING STARTED

1.0 Short Description of OceanView™ Installation Procedures

This chapter is not essential for performing the installation procedures. It describes the general steps of what you have to do and why. Detailed information is contained in the chapters below.

In order to use OceanView™ properly you have to do the following:

1) Install the program (see chapter IV.2.0).

2) Register a chart database. Registration shows OceanView™ the path to a specified chart database (CD-ROM drive, Hard disk, etc.). Without registration OceanView™ is not able to locate and use chart databases (see chapter IV.4.0).

3) Get a license for using OceanView™ in the C-MAP Norway AS (purchase the license for the area required and register it in the C-MAP company). The licenses for worldwide coverage are available, as well as licenses for any combination of zones, areas, and cells. Please contact your local dealer or C-MAP Norway AS for detailed licensing explanation.

4) Apply the license. In OceanView™ you have to put the 16-digit code in using keyboard or import it from file (see chapter IV.5.2 or IV.5.3). After that OceanView™ will be able to decrypt and use the chart database (but only for the areas for which you have purchased and applied licenses).

Weather Forecast Data (see chapter VII.8.0) are available on the subscription basis. After payment you will get access to the forecast server and will be able to download data any time. No file transfer or code input is required.

2.0 Installing OceanView™

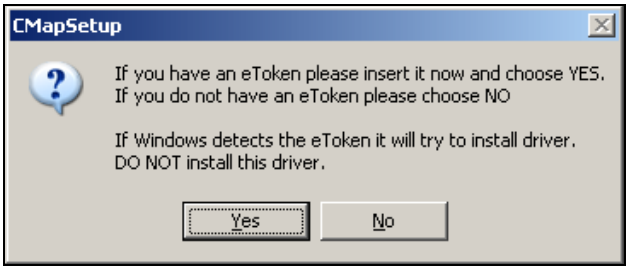
2.1 Installation

To install OceanView™ on your computer:

1. Insert the CD-ROM disk into the CD-ROM drive.
2. Run CMapSetup.exe (My Computer\C-Map OceanView\CMapSetup.exe) to launch the OceanView™ setup program.
3. Follow the instructions of the setup program.

2.2 Installation Modes

The setup program offers two installation modes: with and without eToken. At the start of installation you are asked to choose one of the two modes. The installation mode without eToken is not used anymore, so you should chose the mode with eToken and press **Yes**:


CMapSetup
If you have an eToken please insert it now and choose YES.
If you do not have an eToken please choose NO
If Windows detects the eToken it will try to install driver.
DO NOT install this driver.
Yes
No

A new C-Map user is registered automatically using information stored in your eToken.

Warning!

If MS Windows detects the eToken and tries to install drivers, you should cancel the operation. The eToken RTE is included in the installation package and should be installed by the OceanView™ setup program.

Notes:

- You can only install OceanView™ from the original media.
- There is one more way how you can install OceanView™. Go to **Start > Settings > Control Panel** and double-click the **Add or Remove Programs** icon.
- The OceanView™ installation package includes five components:
    1) eToken RTE
    2) C-Map Professional SDK RTE
    3) C-Map OceanView™
    4) C-Map CM-3D
    5) C-Map Terminal

2.3 Reinstalling OceanView™ on Your Local Computer

If due to some reason you need to reinstall OceanView™ on your computer, do the following:

1. Insert the CD-ROM disk into the CD-ROM drive.
2. Run CMapSetup.exe (My Computer\C-Map OceanView\CMapSetup.exe) to launch the OceanView™ setup program.
3. Follow the instructions of the setup program.
4. If you have some components of the installation package previously installed on your computer, the setup program will install the missing components to the installed components location.

2.4 Network Installation

Installation of C-Map OceanView™ on a network server can only be carried out by the system administrator. The installation consists of two stages. First, the program is installed on all nodes of the network including the server. After that, the network should be properly configured so that all nodes have access to cartographic data stored on the server.

- To install OceanView™:
    1. Insert the CD-ROM disk into the CD-ROM drive.
    2. Run CMapSetup.exe (My Computer\C-Map OceanView\CMapSetup.exe) to launch the OceanView™ setup program.
    3. Follow the instructions of the setup program.
- To configure your local network, see chapter IV.4.0.

2.5 Removing OceanView™

To remove OceanView™:

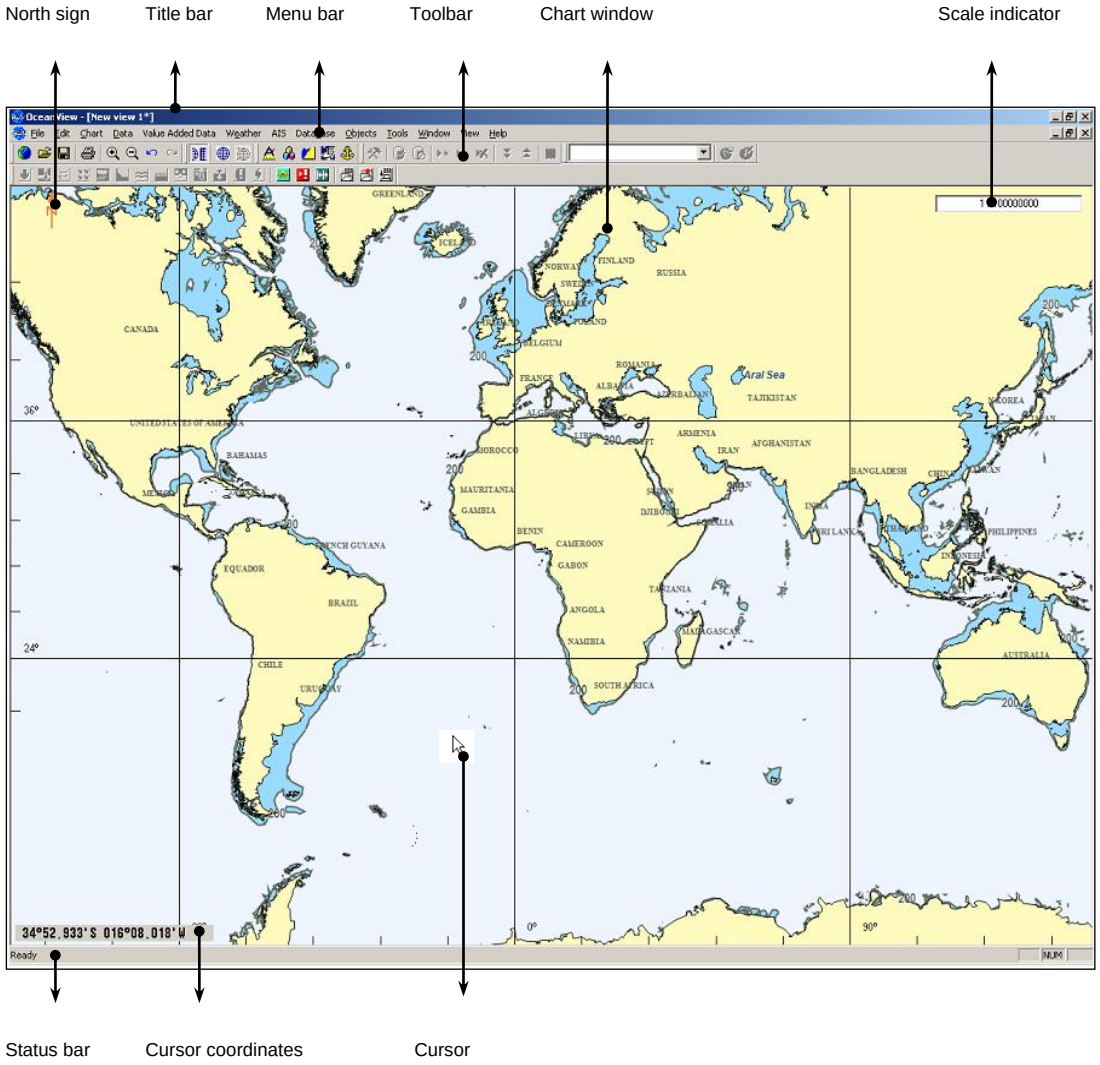
1. Go to **Start > Settings > Control Panel** and click **Add or Remove Programs**.
2. Delete successively all components of the OceanView™ installation package:
    1) eToken RTE
    2) C-Map Professional SDK RTE
    3) C-Map OceanView™
    4) C-Map CM-3D
    5) C-Map Terminal

    To delete a component, in the list of installed programs, select one of the components and click **Remove**.
3. When removing C-Map OceanView™, you can choose to keep or remove the user data created during work with the program.
4. When removing C-Map Professional SDK RTE, you can choose to keep or remove databases, updates and licenses already installed on your computer.

3.0 OceanView™ Interface

3.1 OceanView™ Main Window

Run OceanView™ from the MS Windows **Start** menu or using your shortcut on the desktop. The program general layout looks as follows:



The program window consists of the following elements:

1) **Title bar** – in the bar you can see the name of the program (OceanView) the name of the currently opened file, and a standard set of a window control buttons (**Minimize**, **Maximize/Restore down**, and **Close** buttons)

2) **Menu bar** – in the bar, main menu entries are located; you can access any OceanView function through a corresponding menu entry.

3) **Toolbar** – in the toolbar, the program's various toolbars are displayed; you can configure the toolbar contents from the **View > Toolbars** main menu command, just check the toolbars you want to be displayed in the list of toolbars. Pay attention that some icons of toolbars are toggle keys.

4) **Status bar** – in the bar, information about the program operation status is displayed.

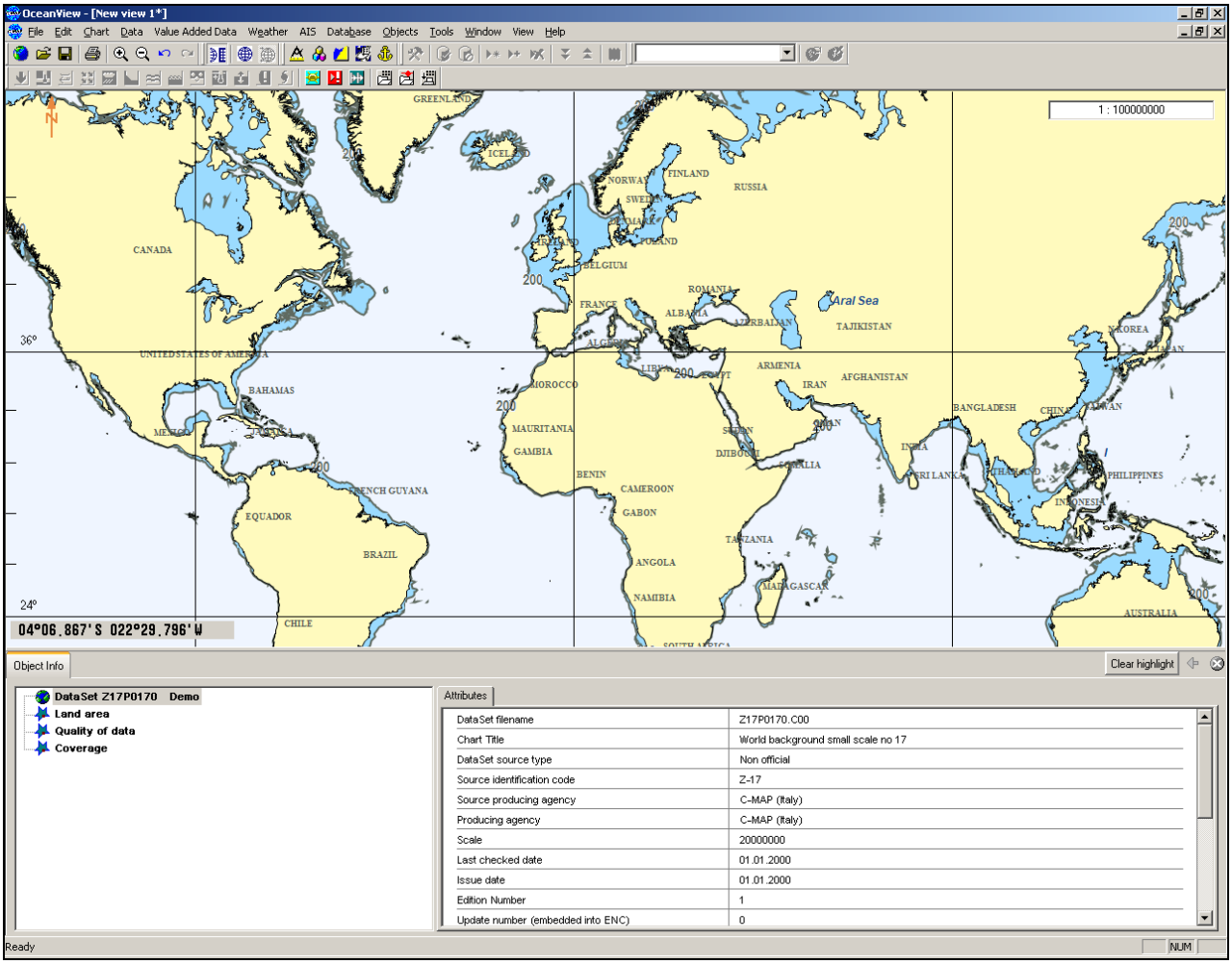
5) **Chart window area** – this is the main window of OceanView™. Its background is a navigational chart. You can work with several chart windows at the same time. Each chart window contains the following elements:

- **North sign** – the North direction is always upward.

- **Scale indicator** – displays the current scale. Move the cursor to this indicator for the **Scale panel** to appear (see chapter VI.2.0).

- **Cursor position indicator** – displays the latitude and longitude of the cursor position; the indicator is displayed while the cursor is inside the chart window borders. Coordinates are expressed in degrees, minutes and thousandths of minute.

- **Functional panels** are displayed when additional OceanView™ features are activated to show the required information. It can be a database table, tidal or voyage planning information, etc.



Remark

Please bear in mind that these panels obstruct the chart window, but do not decrease its size.

All functional panels have two instruments: The **Close** button and the **Alignment** button. The **Alignment** button allows you to move the functional panel to the left, right, top or bottom borders of the chart window.

Sometimes additional buttons appear on functional panels, for example **Export to MS Word**.

- **Additional and auxiliary windows.** When OceanView™ needs additional data or displays more information, separate dialog boxes and windows appear. An example is the **3D Window** (see chapter VI.7.0).

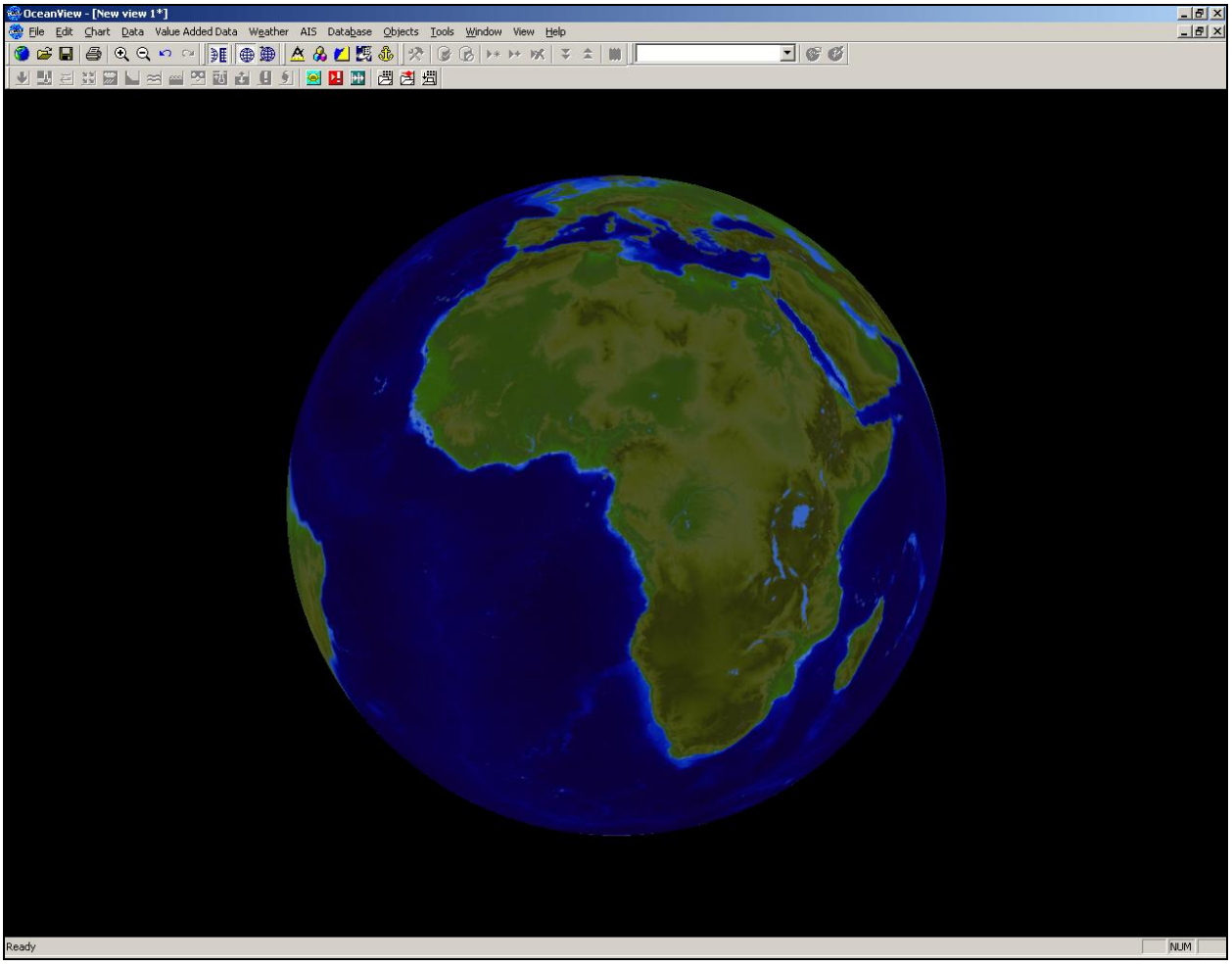
To close OceanView™ go to **File > Exit** or press the **Close** button on the **Title bar**. If the option **Tools > Options > General > Get confirmation before exit OceanView** is ticked, confirmation for exit will be requested.

3.2 3D Globe Display Mode

The current version of OceanView™ offers you the possibility to view the world map on a 3D globe. This functionality is provided by the CM-3D Viewer application installed as a part of the OceanView™ installation package.

Remark

The 3D Globe Display Mode requires the Microsoft DirectX 7.0 and higher to be installed on your system.


OceanView - [New view 1*]
File Edit Chart Data Value Added Data Weather AIS Database Objects Tools Window View Help
Ready
NUM

The 3D globe display mode can be controlled from OceanView™ by means of a toolbar buttons group which consists of three switch buttons:

1. **Globe startup mode** button : if the button is pressed, the globe is displayed when you start OceanView; if the button is outpressed, the overview map is displayed when you start OceanView (you can outpress the button when you finish a working session and it will be outpressed when you start the program next time).

2. **Globe switching mode** button : the button enables / disables switching between 3D and 2D modes. If the button is pressed, the chart view shifts to the globe view at a specified scale and the other way round. To set the scale limit, go to **Tools > Options**, in the **Options** window, select the **General** tab. Type a new limit scale value in the **Globe Settings** panel's **Scale Limit** field.

3. **Switch from 3D to 2D / 2D to 3D** button : the button switches the view between the 2D chart view and 3D globe view. Press the button to switch from the 3D globe view to the 2D chart view; outpress the button to switch from the 2D chart view to the 3D globe view.
   The button is disabled if the **Globe switching mode** button is outpressed. In case you shift between the 3D / 2D view modes by changing the view scale, the **Switch from 3D to 2D / 2D to 3D** button is pressed or outpressed automatically.

To add the globe toolbar to the OceanView™ toolbar, go to **View > Toolbars** and check the **Globe** entry.

The **Globe switching mode** button state affects functioning of the **World Map** button: if the **Globe switching mode** button is pressed, the World Map button switches the view to the 3D globe overview mode regardless of the current view mode; if the **Globe switching mode** button is outpressed, the **World Map** button switches the view to the 2D chart overview mode.

Globe Control

When the 3D globe is displayed, you can rotate the globe and zoom it in or out.

To rotate the globe, press the left mouse button and, holding the button, move the mouse in a required direction.

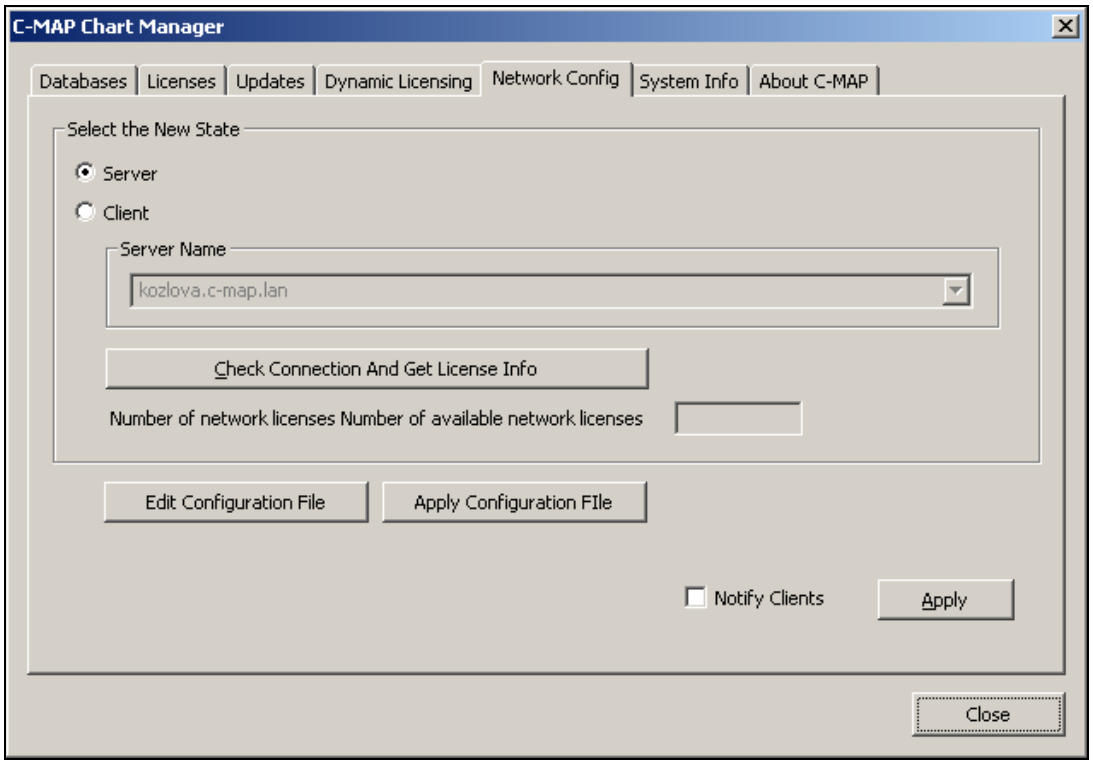
To zoom the globe in, rotate the mouse wheel forward; and to zoom the globe out, rotate the mouse wheel backward. When zooming the globe in, at a specified scale, the globe view will switch to the plane chart view (the limit scale is set in **Tools > Options**, **General** tab, **Globe Settings** panel).

4.0 Network Configuration

4.1 Network Config

In case you are installing OceanView™ on the computers connected into a local network, you should configure the network in a special way. Proper network configuration provides access to the licensed cartographical data stored on the server for all the nodes.

To configure your local network, go to **Data > Chart Management**. In the **C-Map Chart Manger** window select the **Network Config** tab.



From the **Network Config** tab you can:

- Set your computer as server without changing the other network nodes state.
- Set your computer as server and other network nodes as clients.
- Set your computer as client and specify the network server computer name.
- Check the network server availability.
- Get the number of network licenses and the number of available network licenses from the server dongle.
- Edit and apply the networkconfig.xml configuration file.

➢ **To set your computer as server without changing the other network nodes state**

1. On the **Network Config** tab your computer's current state is shown: if the **Server** option button in the **Select the New State** panel is active, the computer is currently set as server; if the **Client** option button in the **Select the New State** panel is active, the computer is currently set as client.

2. To set your computer as server (if it is currently set as client), switch the **Server** option button on.

3. To preserve the other network computers' current state, make sure the **Notify Clients** box is not checked.

4. For the new settings to take effect, press **Apply**.

➢ **To set your computer as server and other network nodes as clients**

1. On the **Network Config** tab your computer's current state is shown: if the **Server** option button in the **Select the New State** panel is active, the computer is currently set as server; if the **Client** option button in the **Select the New State** panel is active, the computer is currently set as client.

2. To set your computer as server (if it is currently set as client), switch the **Server** option button on.

3. To set the other network computers as clients, check the **Notify Clients** box.

4. For the new settings to take effect, press **Apply**.

5. When the local computer is set as server, other network nodes are automatically set as clients.

➢ **To set your computer as client**

1. On the **Network Config** tab your computer's current state is shown: if the **Server** option button in the **Select the New State** panel is active, the computer is currently set as server; if the **Client** option button in the **Select the New State** panel is active, the computer is currently set as client.

2. To set your computer as client (if it is currently set as server), switch the **Client** option button on.

3. Select the new server name in the **Server Name** box list

   - In case you use the networkconfig.xml file to configure your local network and the file contains a list of local network nodes' names (and not only your computer name), the list of the **Server Name** box is filled with the nodes' names from the file;

   - In case the networkconfig.xml file only contains your computer name, you are proposed to choose as server any computer connected to your computer over a local network, when setting a new server name.

   When one of the network computers is set as client, other network computers do not change their state. If you set the current server computer as client, you have to appoint another computer as server and specify the new server on other network computers manually.

4. For the new settings to take effect, press **Apply**.

➢ **Check the network server availability**

1. To check if the network server is available (the server is on, the network is functioning properly), press the **Check Connection And Get License Info** button. The message that appears informs you about the server's state.

2. If you have selected a new server, before you can check its availability and get licenses number, don't forget to apply the new server. Otherwise you will be returned the former server status and the number of licenses written in the former server dongle.

3. If the network server is available, in the **Number of network licenses/ Number of available network licenses** box, the number of network licenses (overall number of computers that can be connected into a network and use licenses stored in the dongle of the server) and the number of available licenses (number of vacant network licenses) are displayed. Two numbers are separated with a slash ('/').

➢ **To edit and apply configuration file**

1. Press the **Edit Configuration File** button. The XML editor opens that is specified as default XML editor in your Internet Explorer and where you can edit the configuration networkconfig.xml file.

2. After you finished editing the configuration file, press the **Apply Configuration File** button: new list from the edited configuration file is written to the **Server Name** box list.

4.2 Network Configuration XML File

The networkconfig.xml file serves for listing nodes of a local network in order to provide information exchange between all the network computers.

Initially the networkconfig.xml file only contains one record: the record of the host computer. Other network computers should be entered to the file manually. Use the file structure description to create records for other nodes of your local network.

➢ **The networkconfig.xml structure**

The file describes network nodes, referred to as hosts, and sets their priority for the updating procedure:

```
<?xml version="1.0" standalone="no"?>
 <Hosts>
  <Host Name="Host 1" />
  <Host Name="Host 2" />
  <Host Name="Host 3" Priority="1" />
  ...
  <Host Name="Host N" />
 </Hosts>
```

The root tag of the network nodes list is the <Hosts> tag. This tag is the parent tag for a number of <Host> tags. Each <Host> tag describes one network node. A <Host> tag has two parameters:

- Name: the network node IP address, mandatory parameter
- Priority: querying priority, optional (from 0 to 32776)

NOTE: If priorities are not specified, the nodes will be queried in the order they are listed in the file. It is possible that two or more nodes have the same priority. In this case, they will also be queried in the order they are listed in the file.

➢ **The networkconfig.xml installation**

The networkconfig.xml file is installed in the system in the course of the C-Map Professional SDK RTE installation. The path to the file is registered in the system registry:

HKEY_LOCAL_MACHINE\SOFTWARE\C-Map\Networking

The registry entry consists of two elements:

- **ConfigPathName** is a string parameter indicating the path and the filename:

  [your_C–MAP_SDK_directory]\System\HTML\networkconfig.xml]

- **Mode** is a DWORD parameter specifying the network architecture type. The network architecture type used in the SDK is the 'client-server' type (the Mode value is 2).

You can access the file through a file manager using the path to the file or you can use the Network Config tab which provides access to the file automatically.

4.3 Configuring DCOM for C–Map Professional SDK Network Solution

C-Map Professional SDK Network Solution uses Distributed COM (DCOM) in order to provide communication between computers connected into a network. For this purpose DCOM may require additional configuration.

➢ **To configure DCOM on a local network node for C–Map Professional SDK network solution**

You must have administrator privileges on the computer where you are configuring DCOM.

1. From the **Start** menu, choose **Run**.
2. In the **Open** box, type dcomcnfg.exe.
3. Click **OK** to open the **Component Services** dialog box.
4. In the left pane of the **Component Services** dialog box, expand the **Component Services** node and find **Computers**.
5. Expand the **Computers** node and find the computer for which you want to configure DCOM (MyComputer).
6. Right-click the computer name and choose **Properties** from the shortcut menu.

7. In the **Properties** dialog box, select the **Default Properties** tab and make sure that:
    - the **Enable Distributed COM on this computer** check box is checked
    - in the **Default Authentication Level** box, **Connect** is selected
    - in the **Default Impersonation Level** box, **Identity** is selected
8. Select the **COM Security** tab.
9. Under **Access Permissions**, click **Edit Limits** to open the **Access Permission** dialog box.
10. Access parameters of the following groups should be configured:
    - ANONYMOUS LOGON – select **Allow Local Access** and **Allow Remote Access** check boxes
    - Everyone – select **Allow Local Access** and **Allow Remote Access** check boxes
    - NETWORK – select **Allow Remote Access** check box

    If the group or user who needs access does not appear in the list of permissions, add it the list.
11. Click **OK** to return to the **COM Security** tab.
12. Under **Access Permissions**, click **Edit Default** to open the **Access Permission** dialog box.
13. Access parameters of the following groups should be configured:
    - SELF – select **Allow Local Access** and **Allow Remote Access** check boxes
    - SYSTEM – select **Allow Local Access** check box
    - NETWORK – select **Allow Remote Access** check box

    If the group or user who needs access does not appear in the list of permissions, add it to the list.
14. Click **OK** to return to the COM Security tab.
15. Under **Launch and Activation Permissions**, click **Edit Limits** to open the **Launch Permission** dialog box.
16. Access parameters of the following groups should be configured:
    - Administrators – select all **Allow** options check boxes
    - Everyone – select all **Allow** options check boxes
    - NETWORK – select **Allow Remote Launch** and **Allow Remote Activation** check boxes

    If the group or user who needs access does not appear in the list of permissions, add it to the list.
17. Click **OK** to return to the **COM Security** tab.
18. Under **Launch and Activation Permissions**, click **Edit Default** to open the Launch Permission dialog box.

19. Access parameters of the following groups should be configured:
    - Administrators – select all **Allow** options check boxes
    - INTERACTIVE – select **Allow Local Launch** and **Allow Local Activation** check boxes
    - SYSTEM – select all **Allow** options check boxes
    - NETWORK – select **Allow Remote Launch** and **Allow Remote Activation** check boxes

    If the group or user who needs access does not appear in the list of permissions, add it to the list.
20. Click **OK** to return to the **COM Security** tab.
21. Click **OK** to close the **Properties** dialog box.
22. If you changed any settings in this procedure, restart C–Map Service.

➢ **To restart C–Map Service**

1. From the **Start** menu, select **Settings > Control Panel**.
2. In **Control Panel**, double-click on **Administrative Tools**.
3. In the **Administrative Tools** window, double-click on **Services** to open the **Services** dialog window.
4. In the **Name** column of the services table, right-click on **C–Map Service**.
5. From the shortcut menu select **Restart**.
6. Select **Automatic** startup type for the service:
    a. Right-click on **C–Map Service**.
    b. From the shortcut menu select **Properties**.
    c. In the **General** tab, in the **Startup Type** box select **Automatic**.
    d. Click **OK**.
7. Close the **Services** window.

NOTE: If you are working in Windows XP 2 Service Pack (SP) or Windows 2003 operating systems, it is necessary to disable Windows Firewall.

➢ **To disable Windows Firewall**

1. From the **Start** menu, select **Settings > Control Panel**.
2. In **Control Panel**, double-click on Windows Firewall.
3. In the **Windows Firewall** dialog box, select the **Off** option.
4. Click **OK**.

For those cases when you cannot disable your Firewall, see Microsoft recommendations about using Distributed COM with Firewalls on the Microsoft support site (http://msdn.microsoft.com).

5.0 Registration of Chart Databases

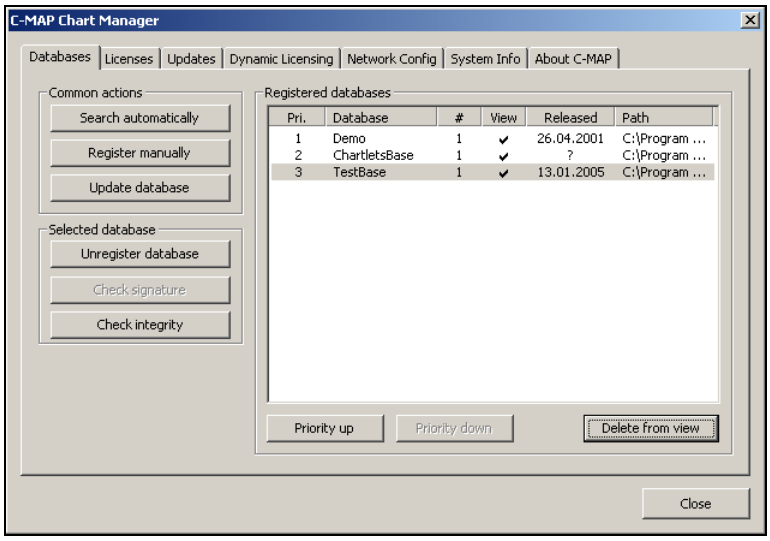
In order to use chart databases in OceanView™ you need to register them. Registration shows OceanView™ the path to a database (CD-ROM drive, Hard disk, etc.). Without registration OceanView™ is unable to locate and use electronic charts.

Remark

In case you work on a client computer (see chapter IV.4.0), you do not have to register the database as OceanView™ uses the database registered on the server.

To register a database:

1) Go to **Data > Chart Management**. In the **C-Map Chart Manager** window select the **Databases** tab.

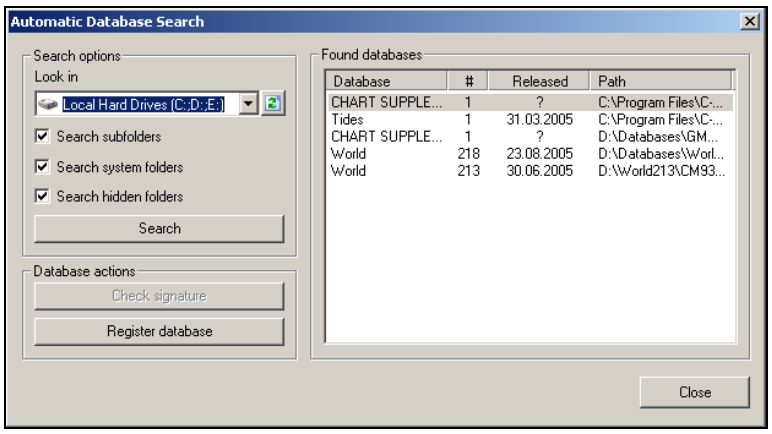


2) Check that the database you want to register is not registered yet (its name is not in the **Registered Databases** list). If the database is registered, you may proceed to the next chapter.

3) Insert the CD/DVD with the database into your CD-ROM drive.

4) Press the **Search automatically** button to open the **Automatic Database Search** window.

5) In the **Automatic Database Search** window **Look in** list, select **Removable Drives** (or another location if the chart database is in a different place), tick all checkboxes and press the **Search** button. After the search is completed, the list of found databases is displayed in the **Found databases** panel.



6) In the **Found databases** list select the name of the database you want to register and press **Register database**.

7) If the chart database is located on a removable or networked disk, the message '*Would you like to copy the database to a local hard disk?'* will appear.

To copy the database, answer **Yes** and choose a destination folder where to copy the database (the default path is C:\Program Files\C-MAP\Databases, but you may choose another location yourself).

To be able to access the database in its current location, answer **No**.

Remark _____

Accessing the database from the hard disk is faster and it will not be necessary to keep the CD in the CD-ROM drive or be connected to a local network. On the other hand, for a group of users in a workgroup it may be convenient to access a common database located in the local network.

8) Close the **Automatic Database Search** window.

9) The chart database should appear in the **Registered databases** list. Select it and press **Add to view**. After that the chart should appear in the chart window.

For detailed information about databases registration see chapter V.2.0

6.0 Licensing of Databases

6.1 Obtaining a License

After registration of a chart database you have to apply licenses. Without licenses you can only view small scale charts.

Remark _____

If you work on a network node computer (see chapter IV.4.0), you do not have to install licenses as you can use licenses installed on the server computer.

Licenses are obtained from C-MAP offices upon request. For chart database, licenses are available for worldwide coverage or any combination of Zones, Areas, or Cells. For more information see chapter V.4.0, contact C-MAP Norway AS or visit www.c-map.no. You have to purchase licenses for the coverage you have selected. When purchased, your license is registered at C-MAP Norway AS.

To obtain a license, you should contact an authorized C-Map dealer who will provide you with a license file after all formalities (order, payment) are settled.

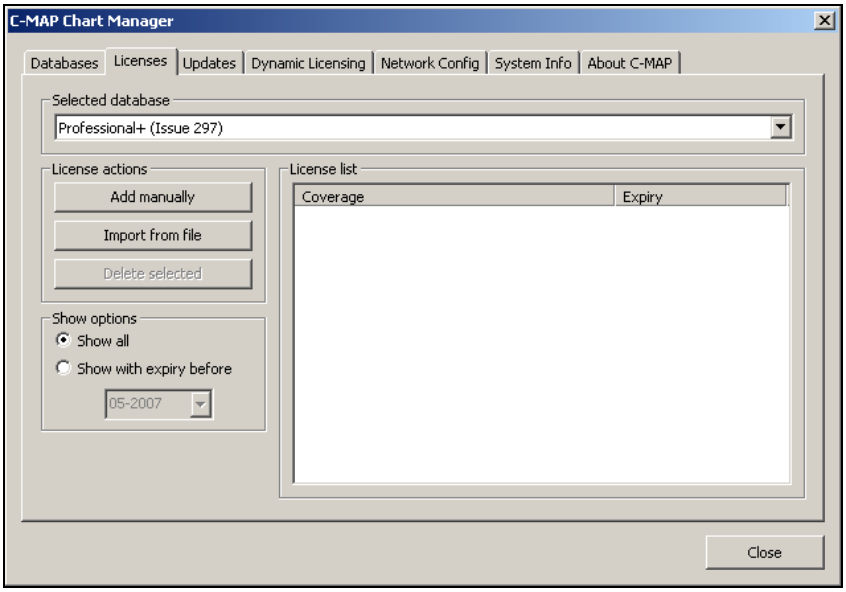
The licenses must now be entered into the system to enable the program to decrypt and use databases (for the chart database, only the coverage for which you have purchased licenses can be displayed).

6.2 Licensing From a File

Once you have the license file use the following method to apply it:

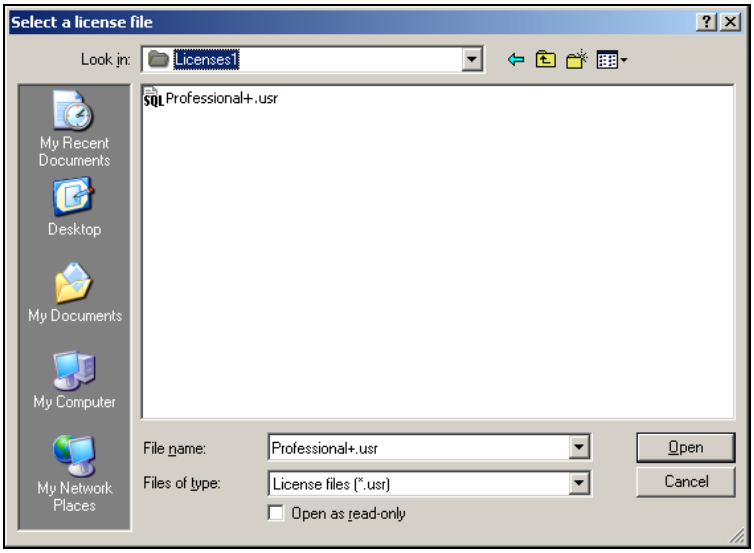
1) Save the received file on your hard disk (for example, C:\My Documents\Passwords and updates)

2) Go to **Data > Chart Management**. In the **C-MAP Chart Management** window, select the **Licenses** tab.



3) In the **Selected database** drop-down list select the database for which you are applying the license.

4) Press the **Import from file** button to open the **Select a license file** window.



5) Open the folder containing the saved license file.

6) Select the license file.

7) Press **Open**.

8) The process will take a few seconds. Upon completion, a message '*Licensing succeeded*' will appear.

9) Press **OK**.

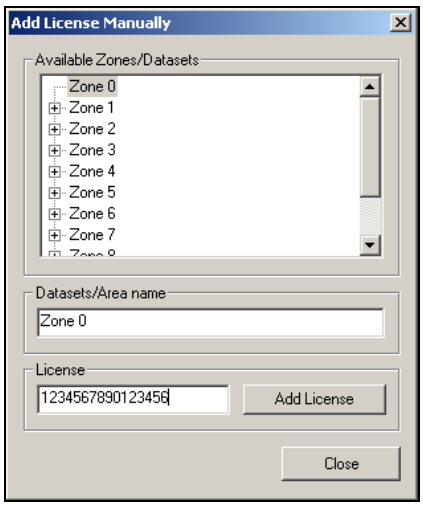
6.3 Manual Licensing

You can apply the license manually if you have a 16-digit code (it is contained in the license file):

1) Go to **Data > Chart Management**. In the **C-MAP Chart Management** window, select the **Licenses** tab.

2) In the **Selected database** drop-down list select the database for which you are applying the license.

3) Press the **Add manually** button to open the **Add License Manually** dialogue window.



4) In the **Available Zones/Datasets** box select the Zone or the Area for which the license is generated. Your selection will be displayed in the **Datasets/Area name** field.

5) Enter manually or copy the 16-digit code to the **License** field.

6) If you use the eToken please ensure that you have connected it to the PC. The eToken must be the one used during installation.

7) Press the **Add License** button. The process will take a few seconds. Upon completion, a message '*License has been added successfully*' will appear. Press **OK**.

Remark

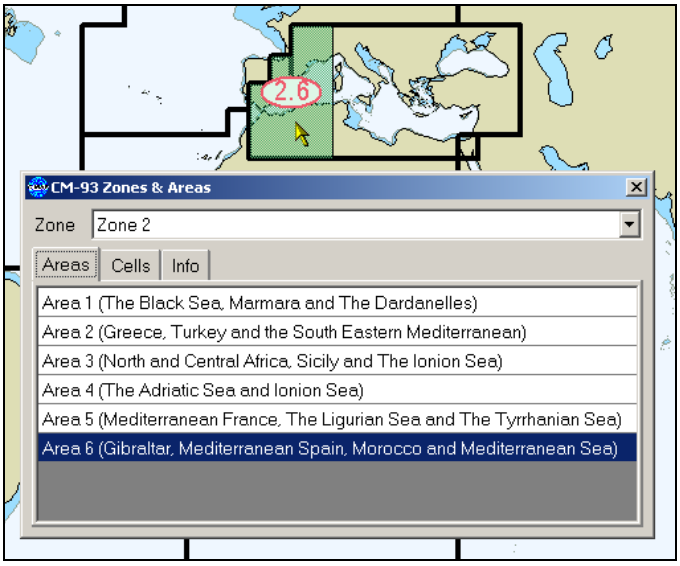
When you enter the field "Data Set or Area Name" you will only find Zones and Areas. Cells are also listed as areas in this list. All Cells, Areas and Additional Areas within a Zone have a unique number. For example the cell 94B in Zone 1 will be listed as Zone 1, Area 91.

7.0 CM-93 Zones and Areas

In general, you should get information about CM-93 Zones and Areas from a C-MAP representative or from the C-MAP Norway Internet site (http://www.c-map.no/). The information there will always include latest updates. However, a general overview of zones and areas is also accessible in OceanView™.

The entire World is divided into 9 Zones. Each Zone is divided into several Areas. Some Zones are also divided into Cells (4X4 degrees) and special areas. When you order a license, you may request the license for any combination of Zones, Areas, and Cells.

Go to **Data > CM-93 Zones and Areas** to open the **C-Map Zones & Areas** window.


2,6
CM-93 Zones & Areas
Zone
Zone 2
Areas
Cells
Info
Area 1 (The Black Sea, Marmara and The Dardanelles)
Area 2 (Greece, Turkey and the South Eastern Mediterranean)
Area 3 (North and Central Africa, Sicily and The Ionion Sea)
Area 4 (The Adriatic Sea and Ionion Sea)
Area 5 (Mediterranean France, The Ligurian Sea and The Tyrrhanian Sea)
Area 6 (Gibraltar, Mediterranean Spain, Morocco and Mediterranean Sea)

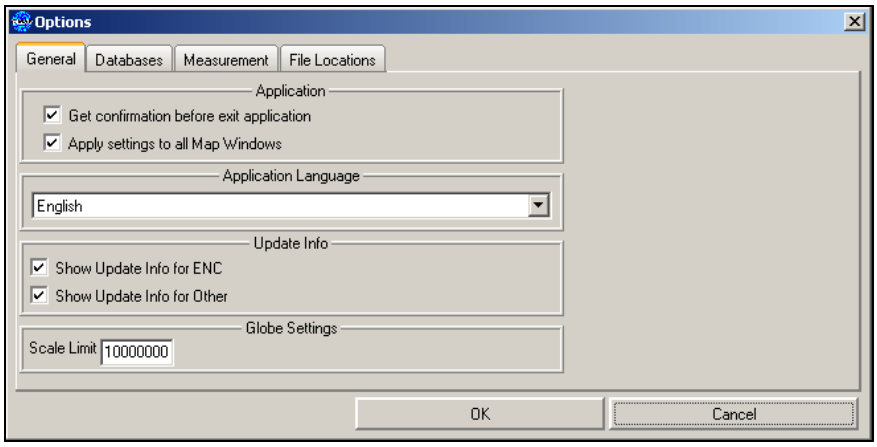
In the window you may select any Zone, Area, or Cell and they will be highlighted on the chart.

Remark

Please note that the numbering of Cells continues after the Area numbers. For example, the number of first Cell in Zone 2 is seven, as there are six normal Areas in that Zone. It allows you to consider Cells as Areas when you order or apply licenses.

8.0 Language Selection

You can choose OceanView™ interface language. Go to **Tools > Options**. In the **Options** window, select the **General** tab. Select the interface language from the **Application Language** drop-down list.



In order to apply language selection you have to restart OceanView™.

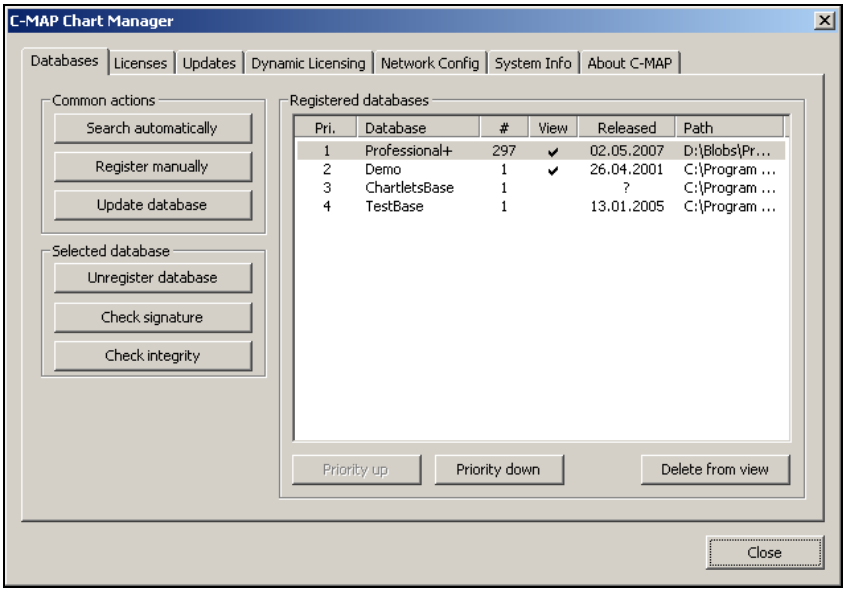
V. CM 93/3 DATABASES MANAGEMENT

In OceanView™ you may register and display several databases. C-MAP constantly develops new databases and improves existing ones. For example, you may purchase Terrestrial database with vast land information, ENC database with official electronic navigational charts, River chart databases, and other. Contact your local dealer or C-MAP representative to obtain additional databases in CM 93/3 format.

To add a database you need to register it (see chapter V.2.0), add the database to view (see chapter V.1.0) and, if necessary, license the database (see chapter V.4.0).

1.0 List of Registered Databases

At any time you may check all registered databases in CM 93/3 format. Go to **Data > Chart Management** menu command, in the **C-MAP Chart Manager** window, select the **Databases** tab.



All registered databases are displayed in the **Registered databases** list. Columns in the list are:

- **Pri.** (Priority) – All databases are displayed by layers. The first layer is the database with the highest priority. The database in the second layer can be displayed with loss of some data obstructed by the database in the first layer. The database with the lowest priority can be displayed with severe loss of data obstructed by all databases with higher priority.

  You may rise the priority up – select a database and press the **Priority up** button. To lower the priority down, press the **Priority down** button.

- **Database** – The database name.

- # – The database issue number. The higher the database issue number, the later is its release date and more up-to-date data it contains.

- **View** – Shows if the database is displayed in the chart window (✓) or not (✘).

  You may delete a database from the view -- select the database and press the **Delete from view** button. To add a database to the chart view, select the database and press the **Add to view** button (the same button has different labels depending on if the database is displayed or not in the chart window).

- **Release** – Release date of the database.

➢ **Path** – Path to the database location.

Besides changing a database priority and adding databases to the view or deleting them from the view, the following operations with databases are possible:

1) **Unregister database**:

   a) Unregisters a specified database. The database will not be displayed until it is registered again.

   b) Destroys the license applied for the database. If you register this database later, you will need to apply the license for it again.

   c) Deletes permanently all automatic updates applied for the database (see chapter V.5.0).

   d) Deletes permanently all manual updates created for the database (see chapter V.6.0).

Warning! _____

In view of the above, you should pay great attention when unregistering databases.

2) **Check signature**. This operation checks integrity of a selected database (all data are correct).

3) **Check integrity**. This operation checks integrity of updates to a selected database (all data in updates are correct).

Remark _____

During creation of a database or updates, a special code depending on data in the database or updates is being generated. After copying, a new code is being generated for the copied data. New and initial codes are compared in the Check operation. If the codes are the same, the check is passed successfully.

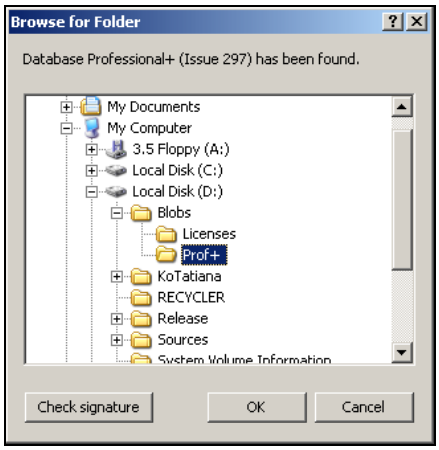
2.0 Registration of New CM 93/3 Database

2.1 Registration from Known Location

If you know location of a database, you may use manual registration.

1) Go to **Data > Chart Management** menu command. In the **Chart Manager** window select the **Databases** tab.

2) Press the **Register manually** button. A **Browse for Folder** window will appear.



3) Locate a folder with the database you are adding. If in the folder you have selected there is a database in the CM 93/3 format, its name is displayed in the window. The **OK** button becomes enabled.

Some CM 93/3 databases can be checked for integrity. If this is the case, the **Check signature** button in the **Browse for Folder** window becomes enabled.

4) Press the **Ok** button to register the selected database.

5) If the database is located on a removable or a networked hard disk, a message *'Would you like to copy the database to a local hard disk?'* will appear.

To copy the database, answer **Yes** and choose a destination folder for the database.

To be able to access the database in its current location, answer **No**.

Remark _____

Accessing the database from the hard disk is faster and it will not be necessary to keep the CD in the CD-ROM drive or be connected to a local network. On the other hand, for a group of users in a workgroup it may be convenient to access a common database located in the local network.

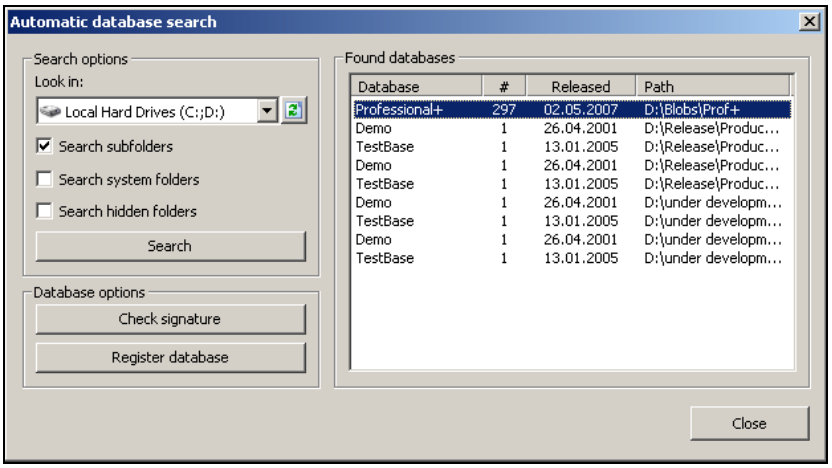
After registration you have to add the database to view (see chapter V.1.0) and apply a license (see chapter V.4.0) if necessary.

2.2 Registration from Unknown Location

If you do not know location of a database, use the search function.

1) Go to **Data > Chart Management** menu command. In the **Chart Manager** window select the **Databases** tab.

2) Press the **Search automatically** button. The **Automatic database search** window will appear.



3) In the **Look in** list select a group of locations for search.

4) Tick checkboxes if necessary.

5) Press the **Search** button. In a few seconds a list of found databases will appear.

6) In the **Found databases** list, select a required database.

Some CM 93/3 databases can be checked for integrity. If this is the case, the button **Check signature** in the **Database Search** window becomes enabled.

7) Press the **Register database** button.

8) If the database is located on a removable or networked disk, the message *'Would you like to copy the database to a local hard drive?'* will appear.

To copy the database, answer **Yes** and choose a destination folder for the database.

To be able to access the database in its current location, answer **No**.

Remark _____

Accessing the database from the hard disk is faster and it will not be necessary to keep the CD in the CD-ROM drive or be connected to a local network. On the other hand, for a group of users in a workgroup it may be convenient to access a common database located in the local network.

9) Press **Close** to close the **Automatic database search** window.

After registration you have to add the database to view (see chapter V.1.0) and apply a license (see chapter V.4.0) if necessary.

3.0 Renewing of Database

If you are a subscription customer who is entitled to chart database updates, it will be necessary to renew this database via the CD/DVD which will be sent to you three times a year (every four months). Upon receiving the CD/DVD, the chart collection should be renewed.

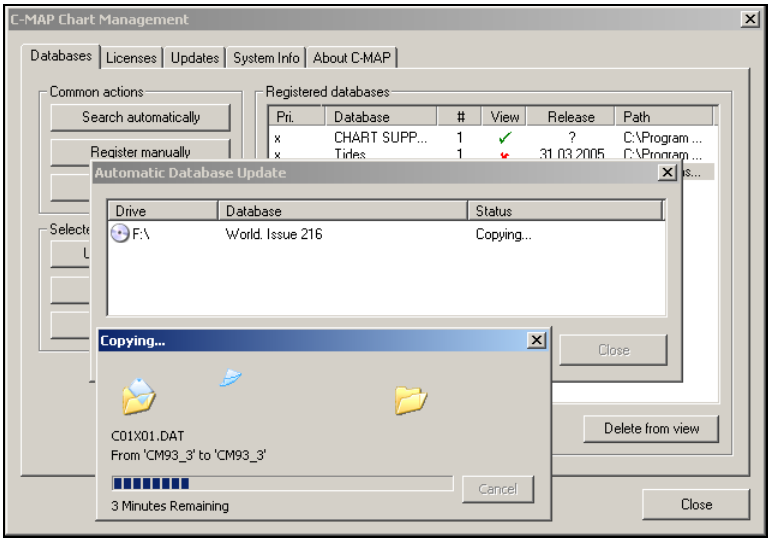
Renewing can be done with any CM 93/3 database, if you possess a CD/DVD with a new database issue.

1) Insert the CD/DVD with a new database issue into your CD-ROM drive.

2) Go to **Data > Chart Management** menu command. In the **Chart Manager** window select the **Databases** tab.

3) Select the database you want to renew.

4) Press the **Update database** button. If OceanView™ locates a CD/DVD with a database whose issue number is higher than the issue number of the registered database in your CD-ROM drive, automatic update will start (if the issue number is the same or less, update will be aborted). The **Automatic Database Update** window will appear, your registered database will be deleted from its current location and the new database will be copied to the same location.



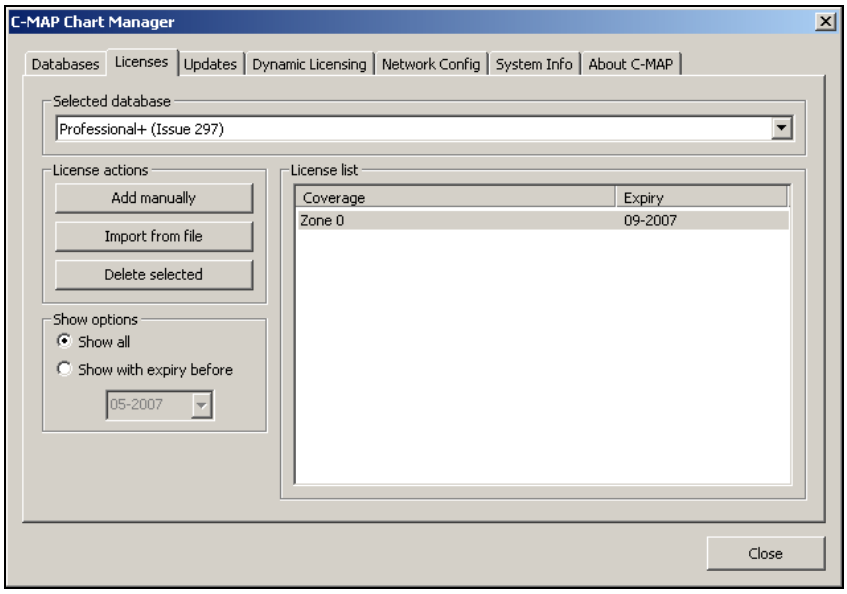
5) Upon completing, press the **Close** button to close the **Automatic Database Update** window.

Remark _____

*As a result of database renewing by means of the **Update database** button, your older database will be deleted permanently. In order to leave the older database for some reason, unregister the older database (see chapter V.1.0) and register the new one in a separate location (see chapter V.2.0).*

4.0 Licensing of Databases

Any time you may check licenses applied for registered databases. Go to **Data > Chart Management**, in the **C-Map Chart Management** window, open the **Licenses** tab.



When you tick **Show all** checkbox and select a database in the **Selected database** drop-down list, all licenses applied for that database are displayed in the **Licenses list**. License coverage and expiration date are shown in the list.

The **Show with expiry before** checkbox allows checking license expiry dates:

1) Tick the **Show with expiry before** option.

2) Input a date in the field below.

   All licenses that will expire before the date you have entered will be shown in the window. For example, if a license is expired in 05-2006, and you input "04-2006" date in the field, the license will not be shown. If you input "06-2006" date in the field, the license will be shown.

4.1 Obtaining a License

After registration of a chart database you have to apply licenses. Without licenses you can only view small scale charts.

Remark _____

If you work on a network node computer (see chapter IV.4.0), you do not have to install licenses as you can use licenses installed on the server computer.

Licenses are obtained from C-MAP offices upon request. For chart database, licenses are available for worldwide coverage or any combination of Zones, Areas, or Cells. For more information contact C-MAP Norway AS or visit www.c-map.no. You have to purchase licenses for the coverage you have selected. When purchased, your license is registered at C-MAP Norway AS.

To obtain a license, you should contact an authorized C-Map dealer who will provide you with a license file after all formalities (order, payment) are settled.

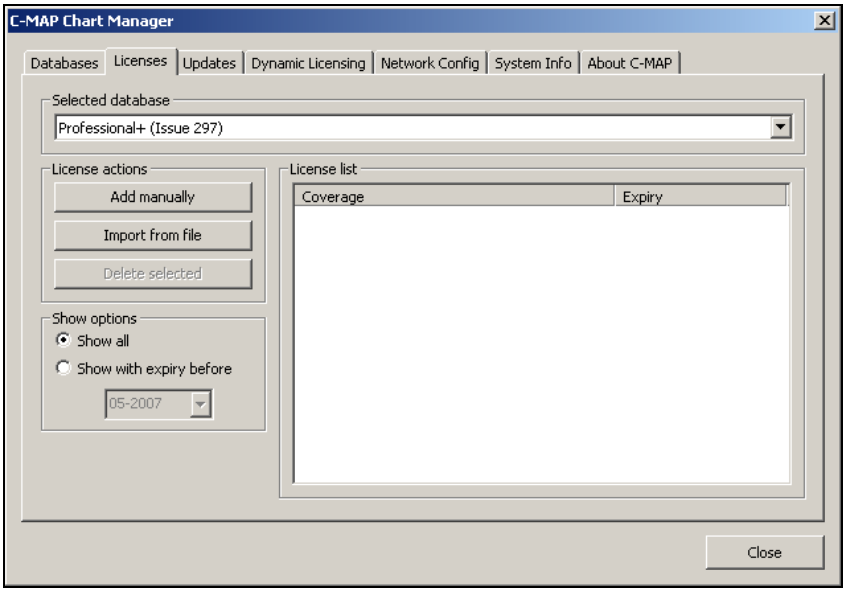
The licenses must now be entered into the system to enable the program to decrypt and use databases (for the chart database, only the coverage for which you have purchased licenses can be displayed).

4.2 Licensing from a File

Once you have the license file use the following method to apply it:

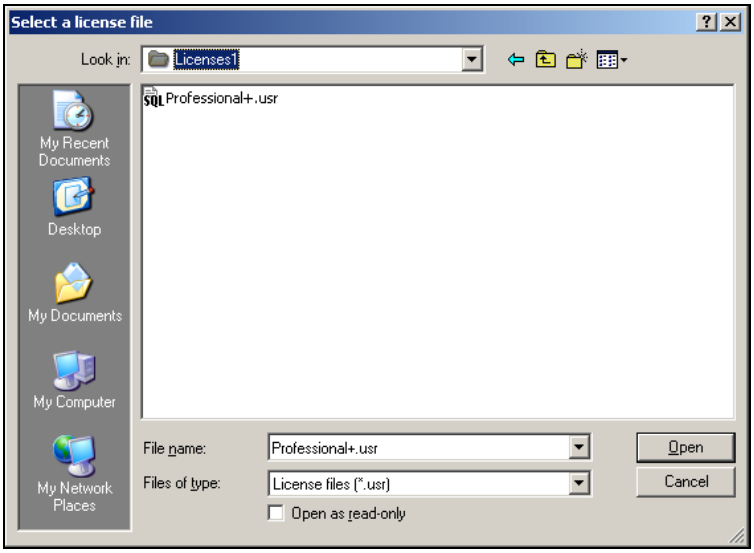
1) Save the received file on your hard disk (for example, C:\My Documents\Passwords and updates)

2) Go to **Data > Chart Management**. In the **C-MAP Chart Management** window, select the **Licenses** tab.



3) In the **Selected database** drop-down list select the database for which you are applying the license.

4) Press the **Import from file** button to open the **Select a license file** window.



5) Open the folder containing the saved license file.

6) Select the license file.

7) Press **Open**.

8) The process will take a few seconds. Upon completion, a message '*Licensing succeeded*' will appear.

9) Press **OK**.

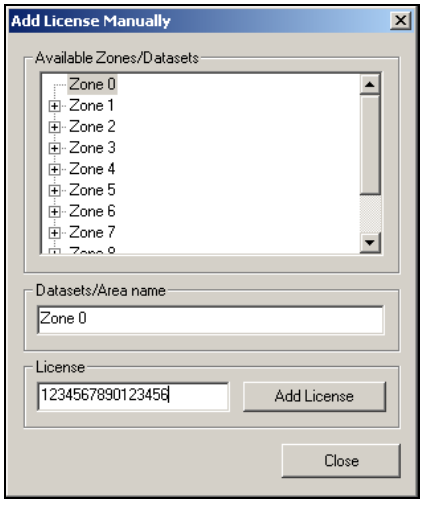
4.3 Manual Licensing

You can apply the license manually if you have a 16-digit code (it is contained in the license file):

8) Go to **Data > Chart Management**. In the **C-MAP Chart Management** window, select the **Licenses** tab.

9) In the **Selected database** drop-down list select the database for which you are applying the license.

10) Press the **Add manually** button to open the **Add License Manually** dialogue window.



11) In the **Available Zones/Datasets** box select the Zone or the Area for which the license is generated. Your selection will be displayed in the **Datasets/Area name** field.

12) Enter manually or copy the 16-digit code to the **License** field.

13) If you use the eToken please ensure that you have connected it to the PC. The eToken must be the one used during installation.

14) Press the **Add License** button. The process will take a few seconds. Upon completion, a message '*License has been added successfully*' will appear. Press **OK**.

Remark

When you enter the field "Data Set or Area Name" you will only find Zones and Areas. Cells are also listed as areas in this list. All Cells, Areas and Additional Areas within a Zone have a unique number. For example the cell 94B in Zone 1 will be listed as Zone 1, Area 91.

4.4 Dynamic Licensing

C–Map provides its clients with a new service: dynamic licensing. Dynamic licensing gives clients the possibility to pay for licenses not for a whole database or chart collection but for single charts that were actually viewed.

To use the dynamic licensing service:

1. Contact a C–Map licensing center to conclude an agreement for the service provision. For the service to be initialized, C–Map needs the following information:

    - your system ID;
    - names of required chart collections – the collections whose charts you will need for your navigation, using the dynamic licensing service you will pay for those charts of the ordered collections that you will actually view;
    - the credit amount information;

    The information may be delivered to C–Map in any form: phone call, e-mail, personal meeting.

2. After you have put money to your credit account, you can use the service.

3. To activate the service send an updates request to the C–Map Updates Server from your computer or, in case of a local network, from the server computer (see chapter V.5.0).

4. In response, the C–Map Updates Server sends updates for already licensed datasets, if there are any, and an answer to the initialization request containing an Initialization Answer. An Initialization Answer contains:

    - The eToken ID of the computer the answer is intended for.
    - Indication of an action to be performed (Activate or Stop the service, or Change service conditions).
    - Credit value, which is a part of the overall bridge credit.
    - Mandatory report date for not reported charts; if a chart is not reported before the date, the access to all data (both reported and not reported datasets) is denied and can only be resumed after the chart use is reported and confirmed.

5. The internal Dynamic Licensing Component, which is a part of the C-Map Professional SDK RTE, writes the dynamic licensing service information to the eToken. After the service initialization, the eToken contains:

    - eToken ID
    - Credit value
    - Collection keys
    - Next mandatory report date

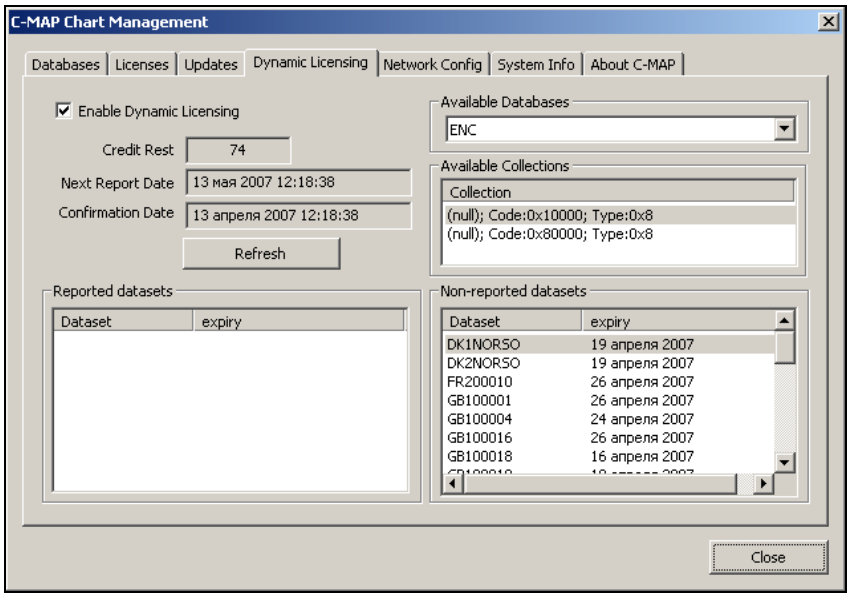
6. In case of a local network, the dynamic licensing information is distributed over the network to all nodes. For the mechanism to function properly, the network should be configured in a specific way (see chapter IV.4.0).

7. Reports about the use of dynamically licensed data are sent automatically together with update requests either by internet or by e-mail as well as confirmation answers containing new credit rest value, new date of mandatory report and expiry date for all reported charts are sent back with updates.

8. To view information about dynamically licensed data, go to **Data>Chart Management**. In the **Chart Management** window, select the **Dynamic Licensing** tab. In the tab you can see the following information:

    - **Available Databases** – the list of databases that can be dynamically licensed.
    - **Available Collections** – the list of chart collections of a specified database which were indicated in the dynamic licensing agreement with C-Map.
    - **Reported datasets** – the list of reported datasets (names and access expiry dates).
    - **Non-reported datasets** – the list of datasets that were viewed but are not reported yet (names and access expiry dates).
    - **Credit Rest** – the rest of credit in the dongle, the credit rest value is sent to you each time you receive updates in a confirmation answer.
    - **Next Report Date** – the date when the next report should be sent to C-Map; in case charts are not reported before the mandatory report date, access to all datasets (both reported and not reported) is discontinued and can be resumed only after the confirmation answer allowing use of the charts is received from the C–Map Updating Server.
    - **Confirmation Date** – the date when the last confirmation answer was received.

- **Enable Dynamic Licensing** – if the box is checked, the dynamic licensing for a specified database is activated and you can access to all datasets contained in specified chart collections; if the box is cleared, you cannot access to new datasets, that is the datasets that were not previously opened, but you still have access to already viewed datasets, both reported and not reported.



How to change the dynamic licensing service terms

To change the dynamic licensing terms (add or remove a chart collection to or from the list of chart collections you have ordered, add or remove a node to or from the list of your local network nodes) or to refuse the service you should:

1. Contact the C–Map licensing center and inform them about the changes you want to make.

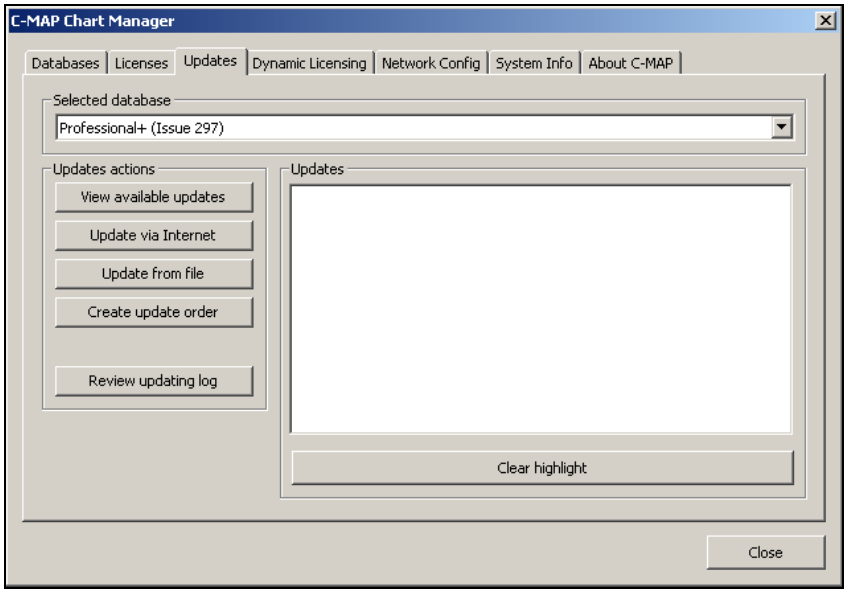
2. For the changes to take effect, you need to receive a new Initialization Answer. To do this send an updates request and in the answer, received from the C–Map Updates Server, there will be the Initialization Answer with new terms.

5.0 Auto Updating

If you have a CM-93/3 subscription you have the possibility to update your charts at any time by using the Real Time Updating Service (RTU) or e-mail Updating Service.

C-MAP updating service allows you to correct the charts as per the latest Notices to Mariners issued and received at C-MAP. The chart database includes the charts from various Source agencies (Hydrographical offices, etc.). The auto update applies the Notices to Mariners issued by the appropriate Source agency to every chart.

Updating can be applied to any database if it is supported and your license allows doing that.



5.1 Online Updating

In order to apply Auto Update you have to be connected to the Internet online.

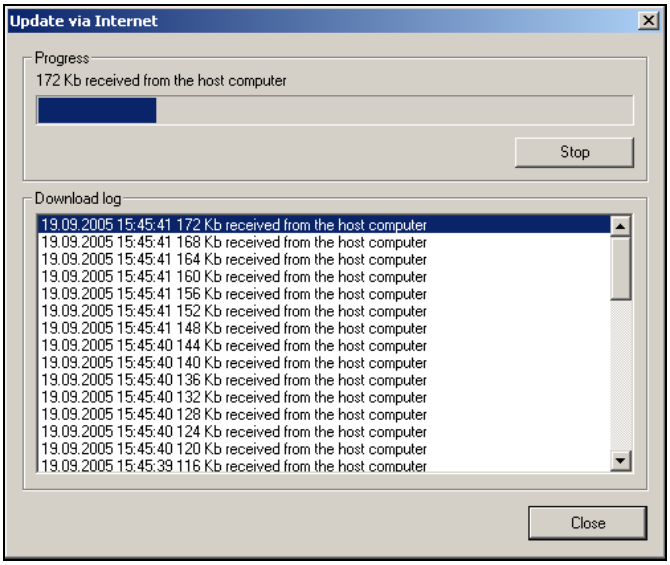
1) Go to **Data > Chart Management** menu command. In the **C-MAP Chart Manager** window, select the **Updates** tab.

2) In the **Selected database** drop-down list, select the database for which you are applying updates.

Remark _____

*Prior to downloading updates, you may estimate the size of the data that will be received – press the **View available updates** button. The process will take from 5 to 20 seconds depending on the speed of your Internet connection. Available updates size and List of available updates will be displayed.*

3) Press the **Update via Internet** button. The **Update via Internet** window will appear and updating process will start. Progress bar, help messages and **Download log** inform you about the updating progress.


Update via Internet
Progress
172 Kb received from the host computer
Stop
Download log
19.09.2005 15:45:41 172 Kb received from the host computer
19.09.2005 15:45:41 168 Kb received from the host computer
19.09.2005 15:45:41 164 Kb received from the host computer
19.09.2005 15:45:41 160 Kb received from the host computer
19.09.2005 15:45:41 156 Kb received from the host computer
19.09.2005 15:45:41 152 Kb received from the host computer
19.09.2005 15:45:41 148 Kb received from the host computer
19.09.2005 15:45:40 144 Kb received from the host computer
19.09.2005 15:45:40 140 Kb received from the host computer
19.09.2005 15:45:40 136 Kb received from the host computer
19.09.2005 15:45:40 132 Kb received from the host computer
19.09.2005 15:45:40 128 Kb received from the host computer
19.09.2005 15:45:40 124 Kb received from the host computer
19.09.2005 15:45:40 120 Kb received from the host computer
19.09.2005 15:45:39 116 Kb received from the host computer
Close

Upon completion, all available updates are downloaded and registered in OceanView™. They are applied immediately after downloading; you do not need to restart OceanView™.

5.2 Updating via E-mail

If you have an Internet connection but due to some reason cannot apply updates via the online updating service (firewall restrictions etc.) you may use the Updating via E-mail service.

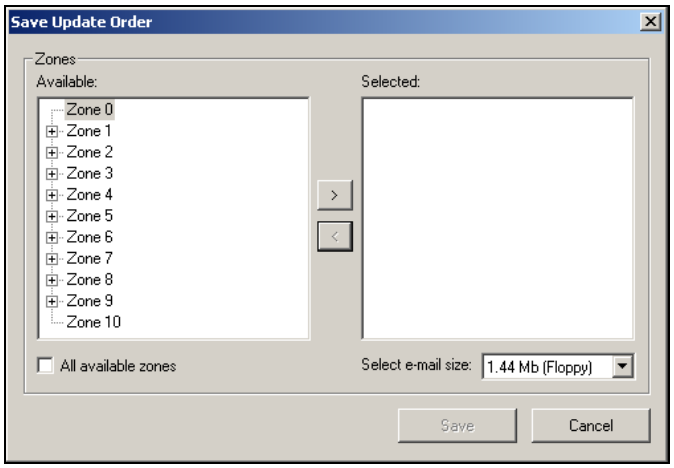
In order to apply E-mail Updates:

➢ **Send request to C-MAP Norway AS**

1) Go to **Data > Chart Management** menu command. In the **C-MAP Chart Manager** window, select the **Updates** tab.

2) In the **Selected database** drop-down list, select the database for which you are applying updates.

3) Press the **Create update order** button. The **Save Update Order** window will appear.



4) Tick the **All available zones** checkbox if you want to request all updates available for your license.

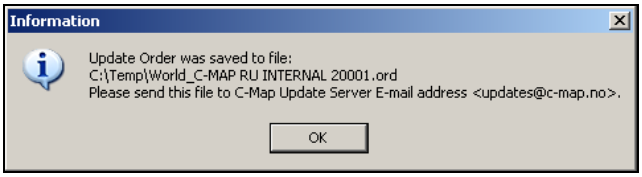
If you want to request updates for several parts of a database (zones and areas in case of the chart database), select necessary zones in the **Available zones** list and add them one by one to the **Selected zones** list by means of the "**>**" button (to remove an entry from the **Selected zones** list use the "**<**" button).

5) In the **Select e-mail size** box, select the maximum size of E-mail messages you want or are able to receive.

6) Press the **Save** button.

7) In the **Browse for folder** window locate the folder where you want to save the updates order file (for example C:/Temp).

8) Press **OK**. The order file containing all information required for updating will be generated and saved in the selected folder as an *.ORD file. Information message will state the file name, path to it and will remind you e-mail address where you have to send this file.



9) Run your e-mail program.

10) Create a new letter.

11) Attach the saved file to the letter.

12) The service is automated and it is not necessary to write anything in the letter.

13) Send your e-mail to the address updates@c-map.no.

➢ **Receive a reply from the updating service**

1) The server will automatically generate updates for your databases. After a short time the updates will be sent as attachments to your e-mail address (update files have the *.ans extension). You will receive the reply in about 5 minutes. If the size of updates exceeds your requested e-mail size (see above), you will receive several e-mail messages, each of them does not exceed your requested e-mail size.

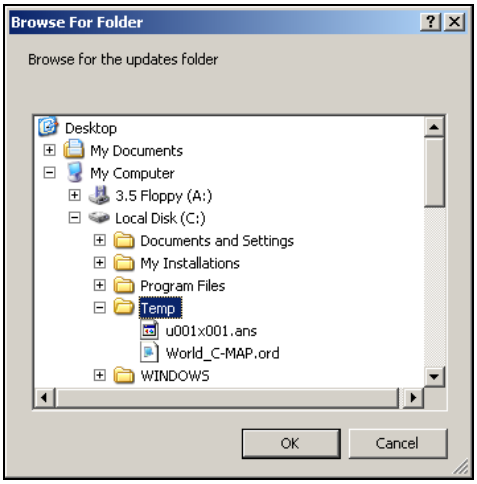
2) Save the update file(s) to your hard disk or to other storage.

➢ **Apply updates**

1) Go to **Data > Chart Management** menu command. In the **C-MAP Chart Manager** window, select the **Updates** tab.

2) Press **Updates from file** button to open the **Browse For Folder** window.

3) Select the folder where you have saved the update file(s).



4) Press **OK**.

Updating process will start. Upon completion, all updates contained in the file(s) located in the selected folder are registered in OceanView™. If old updates are stored in the selected folder, they will not be applied. Updates for different databases will not be applied either.

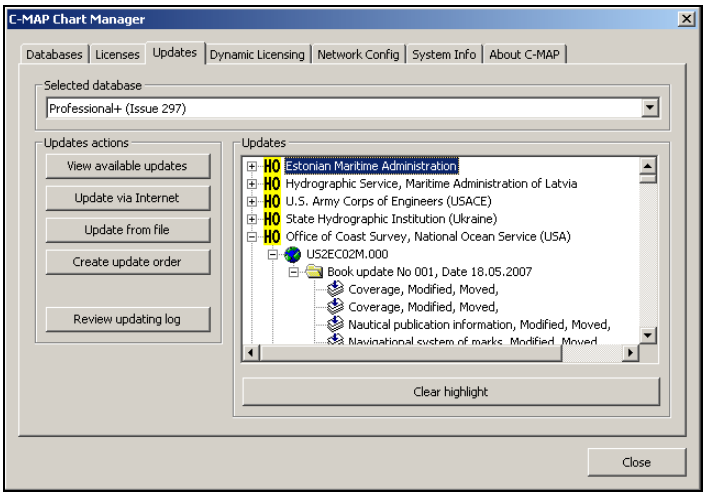
Updates are applied immediately; you do not need to restart OceanView™.

5.3 Updates List

After updating you can review the updates in the list of updates.

1) Go to **Data > Chart Management** menu command. In the **C-MAP Chart Manager** window, select the **Updates** tab.

2) In the **Selected database** drop-down list select the database for which you are applying updates.

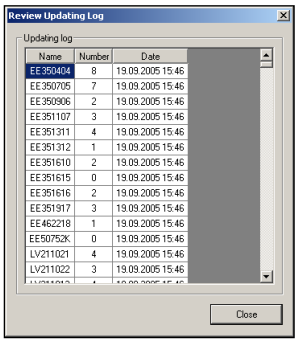


The list on the right part of the panel displays a four level directory tree.

- The first level of the directory tree is the list of hydrographic offices that have issued the received updates.
- The second level is the list of chart numbers or corresponding datasets to which the updates have been applied.
- The third level is the list of update files containing the updates (the third level entry consists of the update file number, update file issue date, and system ID of the update dataset).
- The fourth level is the list of updated objects. The list entry consists of the name of the object and short description of the correction. It does not contain the past and present cartographic object position; for example, if coordinates of an object were changed, it is just marked as "Moved".

The tooltips will assist you in viewing long names and remarks that do not fit the **Updates** window size.

Double click on any update in order to highlight it on the chart. The screen will be scrolled to the object position and the scale changed to the Original scale of the Source chart. A small arrow will point to the object that has been modified. To clear the highlighting press the **Clear highlight** button.

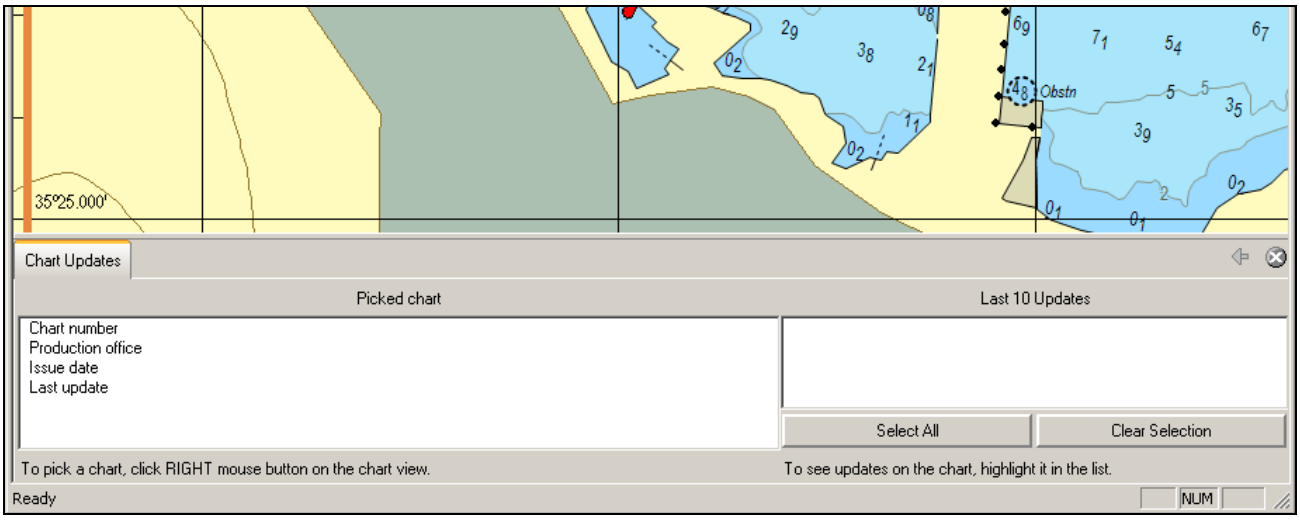


If you press the **Review updating log** button, a list of all datasets (charts), to which updates have been applied, will appear. The information relating to each dataset includes number of updates to the dataset and the date when updates were applied in OceanView™.

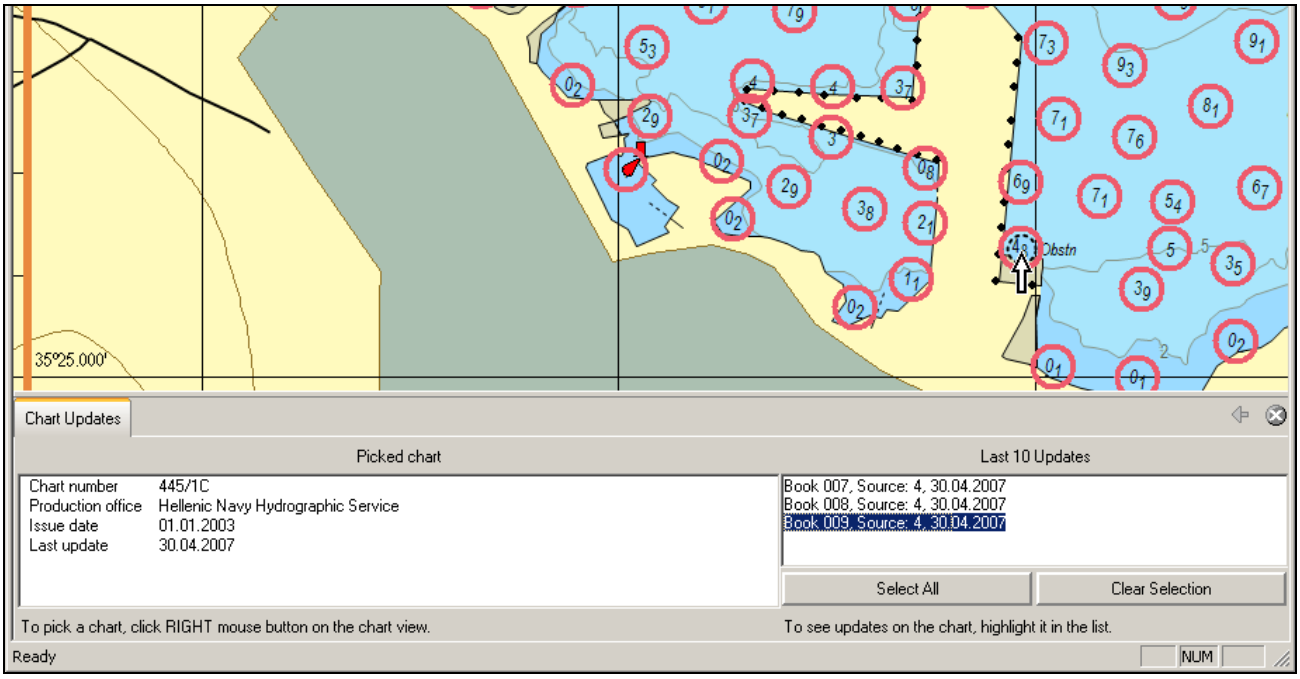
5.4 Reiew Chart Updates

There is a possibility to select a single dataset (electronic chart) and then review the changes in each subsequent incremental update.

1) Go to **Data > Review Chart updates > Objects** menu command. The **Chart Updates** functional panel will open.



2) Click on a required chart with the right mouse button in the chart window. The chart data (chart number, source hydrographic office, issue date, and last update date) will be displayed in the **Picked chart** window of the **Chart Updates** functional panel and the list of updates (the books (update files), in which the corrections were published, with corresponding issue dates) for the chart will be displayed in the **Last 10 Updates** window.



To highlight updates from one of the books, simply select the book in the **Last 10 Updates** list. If you want to highlight all updates for the chart, press the **Select All** button. To clear highlighting, press the **Clear Selection** button.

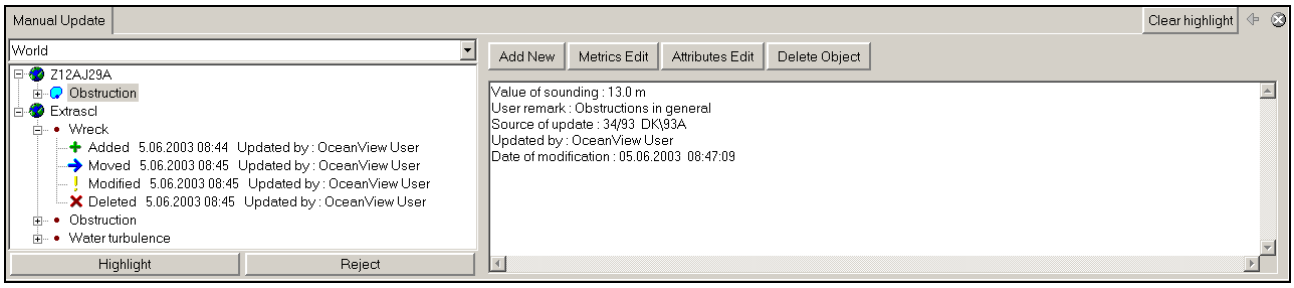
6.0 Manual Update

6.1 General Information

Manual Update allows you to correct charts manually. The sources for Manual Update could be NAVTEX, NAVAREA or other navigational messages and warnings not included in the Auto Update.

All Manual Update Objects are displayed on the chart as normal Objects, but with a special symbol attached to the Object.

Go to **Data > Manual Update** menu command to open the **Manual Update** functional panel.



The **History tree** of all applied updates is displayed on the left side. All corrections are documented: the creation date, moving, modifying and deleting as well as the person who made the updates.

When you select an update in the list, all information related to this update is displayed on the right side of the panel.

Remark _____

*By default all Manual Updates form a separate layer (see chapter II.3.0). In the **History tree** it is called "Extrascl" and all corrections are applied to it. However, in some cases (see chapter V.6.3) your corrections will be applied directly to the dataset. In the **History tree** in such cases you will see the name of the dataset to which the correction has been applied.*

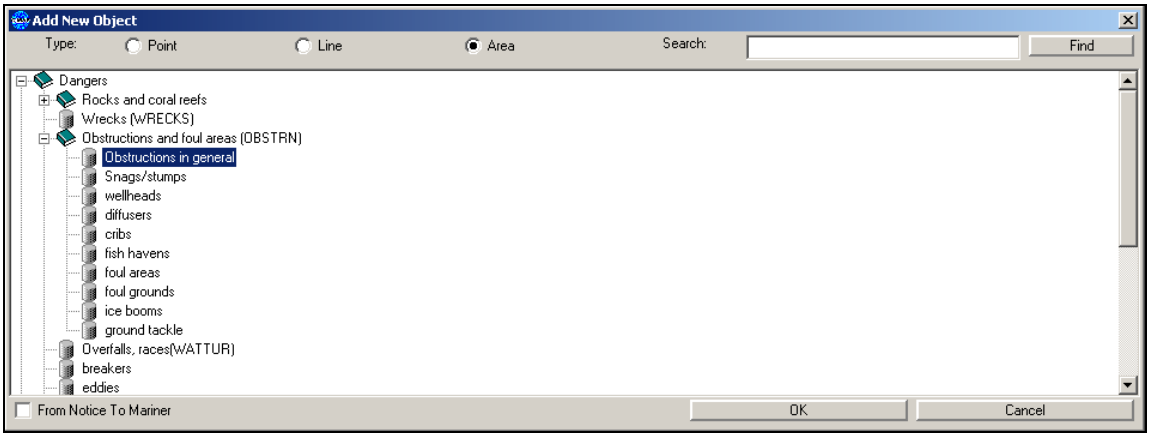
Press the **Highlight** button to highlight the object on the chart. If the object is completely outside of the chart window borders, the screen is moved in order to display the object in the screen center. The scale is not changed.

Press the **Clear highlight** button (located in the upper right corner of the panel) to clear the highlighting.

Press the **Reject** button to clear all information related to the selected object. The object itself, dates of application, name of Operator who applied the update, etc. are permanently deleted from the **History tree**.

6.2 Adding an Object

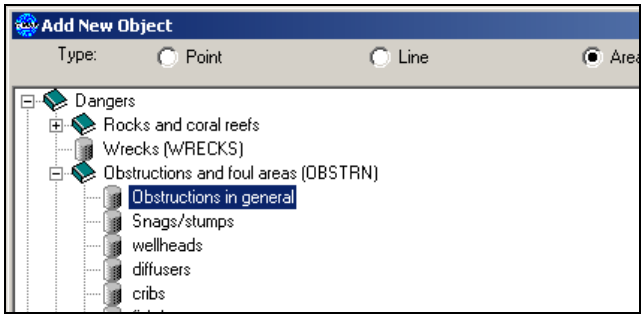
1) Press the **Add New** button to open the **Add New Object** window.



2) Select the Object category in the list of categories.

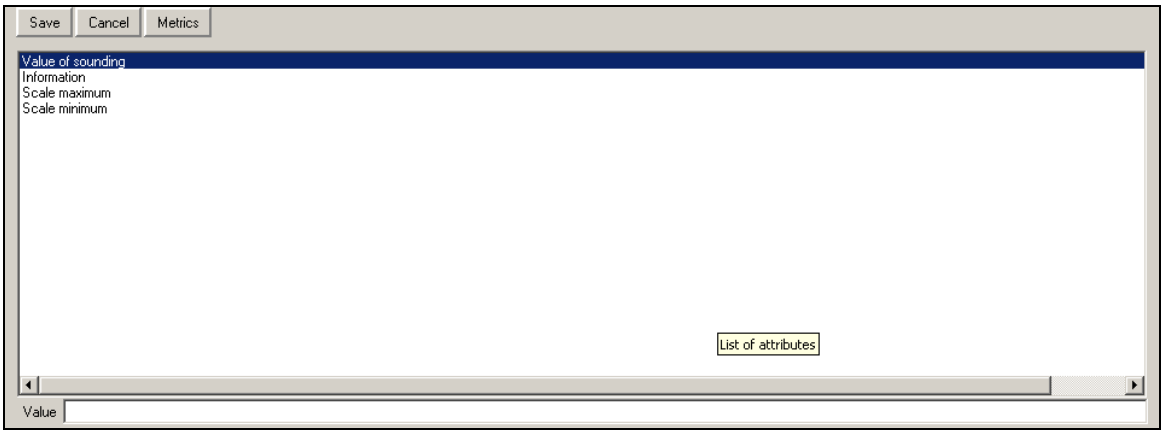
You can use the Find function. Type in a string you want to find and press the **Find** button. The first appearance of the string in the Category tree will be selected. If you press the **Find** button again the second appearance is selected and so on.

3) Some objects can be represented either by a point, line or area. If there is such choice, select the object type.



4) Press **OK**.

5) In the dialog box you have to enter the object attributes. (Press the **Cancel** button, if you want to cancel adding the object.)



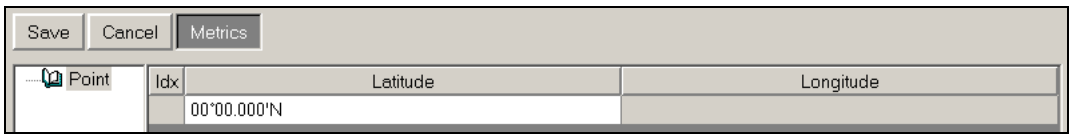
Select the attribute in the list and type in (or select in the appeared ComboBox) its value in the **Value** string. These attributes affect such things as: the symbol used for displaying the object and information about the object shown on the **Object Info** panel (see chapter VI.5.0).

The list of attributes is usually different and depends on the selected object category.

6) Plot the object on the chart. You can do it directly in the chart window or by typing its coordinates.

- In first case, simply click on the chart at the required position(s). For editing, use common principles of drawing objects described in chapter VI.8.1.

- In second case, press the **Metrics** button.



Type the coordinates of the point or vertexes in case of a line or area object in the table: LEFT click on the field that you would like to change (or select it with ARROW keys and press ENTER); type the value and press ENTER. If you press the TAB key you start editing the next cell of the table.

If you want to continue editing the object attributes, release the **Metrics** button.

7) Press **Save**. In the **Updated by** window type your name and press **OK**. Your object has been added to the **History tree**.

6.3 Adding an Object from Notice to Mariners (NtMs)

The principal difference of adding this kind of object is the data layer to which the object will be added. Normally all objects form a separate cartographic layer. By using this function you will add an object directly to the chart (dataset).

1) Press the **Add New** button to open the **Add New Object** window.

2) Select the Object category in the list of categories.

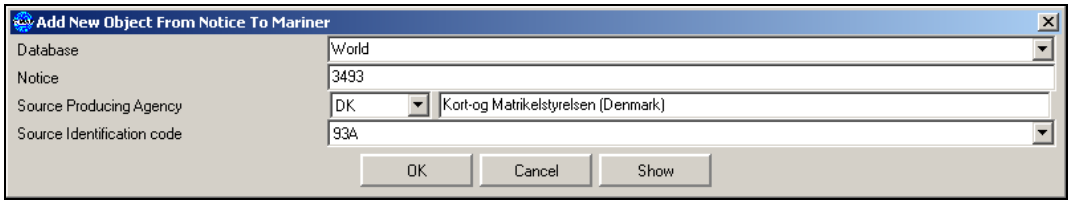
You can use the Find function. Type in a string you want to find and press the **Find** button. The first appearance of the string in the Category tree will be selected. If you press the **Find** button again the second appearance is selected and so on.

3) Some objects can be represented either by a point, line or area. If there is such choice, select the object type.

4) Activate the

checkbox in the **Add New Object** window.

5) Press the **OK** button. The **Add New Object from Notice To Mariner** window will open.



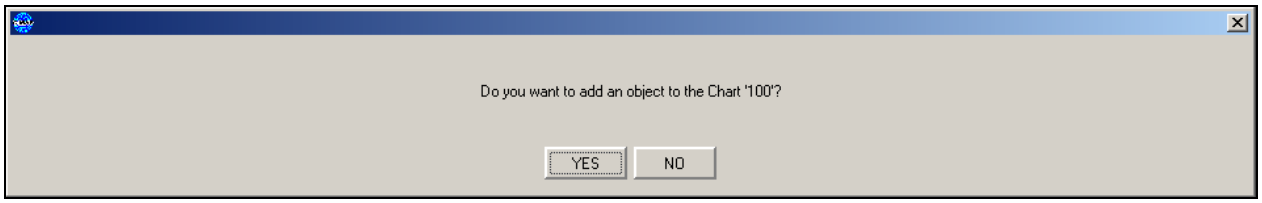
6) Type the number of the Notice to Mariner in the **Notice** field.

7) Select the **Source Producing Agency**. The list consists of the abbreviations only; after selection the full name of Agency is shown.

8) Select the Chart number (**Source Identification code**).

9) Press the **Show** button to move the screen to the chart selected.

10) Press **OK**. You are asked if you really want to add an object to the selected chart.



Press **Yes** if you want to continue or **No** if you want to exit the dialog.

11) If you answer Yes, the dialog box where you have to enter the object attributes opens.

Select the attribute in the list and type in (or select in the appeared ComboBox) its value in the **Value** string. These attributes affect such things as: the symbol used for displaying the object and information about the object shown on the **Object Info** panel (see chapter VI.5.0).

The list of attributes is usually different and depends on the selected object category.

12) Plot the object on the chart. You can do it directly in the chart window or by typing its coordinates.

- In first case, simply click on the chart at the required position(s). For editing, use common principles of drawing objects described in chapter VI.8.1.

- In second case, press the **Metrics** button.

Type the coordinates of the point or vertexes in case of a line or area object in the table: LEFT click on the field that you would like to change (or select it with ARROW keys and press ENTER); type the value and press ENTER. If you press the TAB key you start editing the next cell of the table.

If you want to continue editing the object attributes, release the **Metrics** button.

13) Press **Save**. In the **Updated by** window type your name and press **OK**. Your object has been added to the **History tree**.

6.4 Editing an Object

1) For editing an object select and highlight the object on the **Object info** panel (RIGHT click on the object and DOUBLE click on it in the list, (see chapter VI.5.0). Manually added or edited objects also may be selected in the Manual update **History tree** (see chapter V.6.1).

2) Switch to the **Manual Update** panel if necessary.

3) To edit the object position, press the **Metrics Edit** button. The **Metrics** table will appear and you can change the coordinates or edit the position directly on the chart (see chapter V.6.2 – step 6).

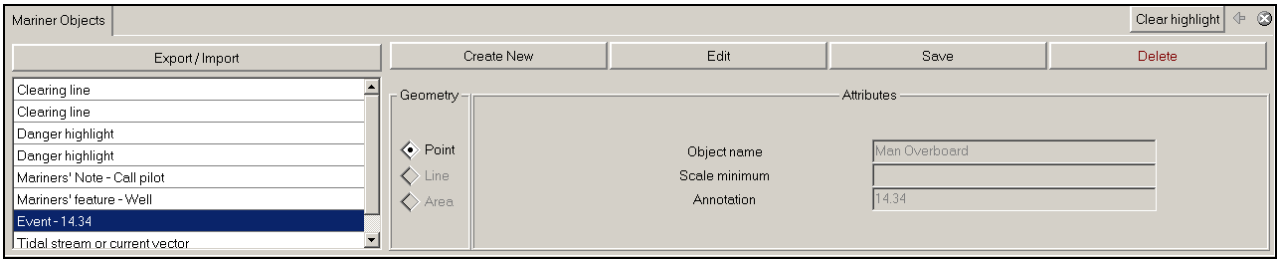
4) To edit the object attributes, press the **Attributes Edit** button. You can change the attributes in the same way as when you were adding the object (see chapter V.6.2 – step 5).

7.0 Mariner objects

7.1 General Information

Mariner objects is a special tool designed to assist the navigator in adding his own information to the chart in accordance with S-52 standards. In OceanView™, all Mariner's objects form a separate cartographic layer. It means that they do not affect any other OceanView™ features and are used just to display additional mariner's notes, remarks, highlights, etc.

Press the icon or go to **Data > Mariner Objects** menu command to open the **Mariner Objects functional** panel.



All Mariner objects on the whole world map are listed here. If you have not created any object yet this list is empty.

Each Mariner's object can be represented by a point, line or area. Moreover, each object has its own attributes. The "Scale minimum" attribute is common for all Mariner's objects. It defines the smallest scale where the Mariner's object should be displayed. Other attributes can be category, object name, annotation, etc.

When you create a new object the first thing you have to do is to select an object class. Six classes of Mariner's objects are presented in OceanView™. They are listed below:

1) **Clearing line**. It is a straight line constructed through suitably selected clearing marks so as to pass clear of certain dangers to navigation. In other words, if you have a danger you can draw the clearing line some safe distance from it to a significant land feature (or two features). While sailing a navigator should keep the vessel on the opposite side of the clearing line. The direction of the clearing line vector is calculated from sea to the land feature and bearings from the vessel to the land feature(s) should be more or less the clearing line direction in dependence of the danger position. For example, when the danger is in a clockwise direction the safe zone will be in an anticlockwise direction. In such cases all bearings from the vessel should be Not Less Than the clearing line direction and an abbreviation NLT <bearing> is used on a chart.

There are three Clearing line categories in OceanView™. They are NMT (Not More Than), NLT (Not Less Than) and undefined (when it is not important, for example, clearing line passes through two land features)

2) **Danger highlight**. This object is used by the mariner to draw attention to a hazard he believes to be dangerous to his vessel. It can be a point (transparent red square) or area (freely drawn polygon).

3) **Event**. An event marks the vessel's position at the instant the mariner detects an event. In case of an event during passage, e. g. in case of a man overboard, the mariner can plot this object.

Two attributes are used: object name (may be number) and annotation (description and/or time). They will be displayed on the chart together with the event symbol.

4) **Mariners' feature**. This is used for observation reporting purposes. Examples are a mariners' caution or information symbol referring to a real object, or additional chart information from his own observation or from other reliable source (may be information from a pilot).

A Mariners' feature may be point, line or area. Its attributes are the name and annotation.

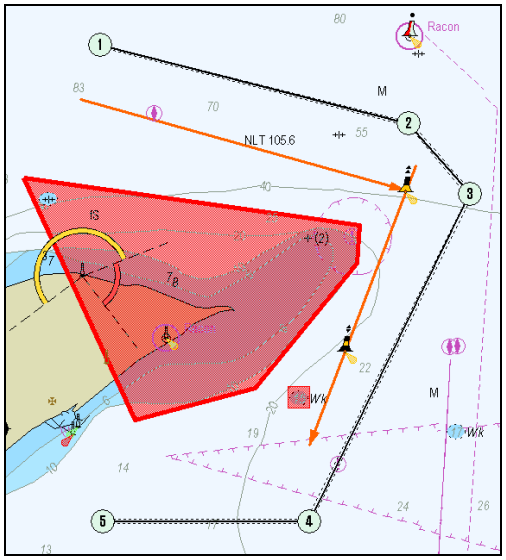
5) **Mariners' Note**. A "Mariners' note" is textual information defined by the mariner which is related to a certain geographic position.

Depending of the importance of the information the mariner may define a category as "information" (general information or note of lower importance) or "caution" (important information, danger, order or instruction to be noticed by the mariner, e.g. "Call pilot" or "1 hour notice").

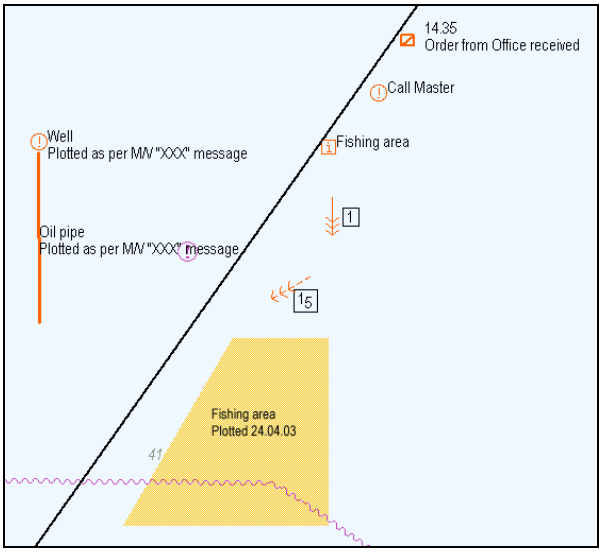
At first glance these object classes can seem complicated. In order to clarify this matter let us consider the difference between them. Although a Mariners' feature "point" and Mariners' note "caution" look similar on the chart there is difference in their use. The Mariners' feature is intended to be used for marking cartographic, real objects (the attribute "name" is provided for that purpose) while a mariners' note is just additional information on the chart (such as orders, reminders, etc.) though referred to the geographic position. A Danger highlight is solely used for defining an existing chart feature believed to be dangerous. A Mariners' feature "line"' and "area" are the only tools allowing drawing of appropriate figures on the chart and may be used for any purpose, when the mariner considers it necessary. The Event object marks the vessel's position in case of an event that happened during the voyage (man overboard, breakdown, etc.).

6) **Tidal stream or current vector**. This object class displays a predicted or actual (observed or measured) tidal stream or current. Its attributes are orientation (sets the vector direction), category (predicted or actual) and current strength.

Object class	Geometry	Attributes	Categories (if any)
Clearing line	line	Scale, category	Undefined, NMT, NLT
Danger highlight	point, area	Scale	
Event	point	Object name, scale, annotation	
Mariners' feature	point, line, area	Name, scale, annotation	
Mariners' Note	point	Scale, category, annotation	Information, caution
Tidal stream or current vector	point	Orientation, scale, category, current strength	Predicted, actual



Clearing lines and danger highlights

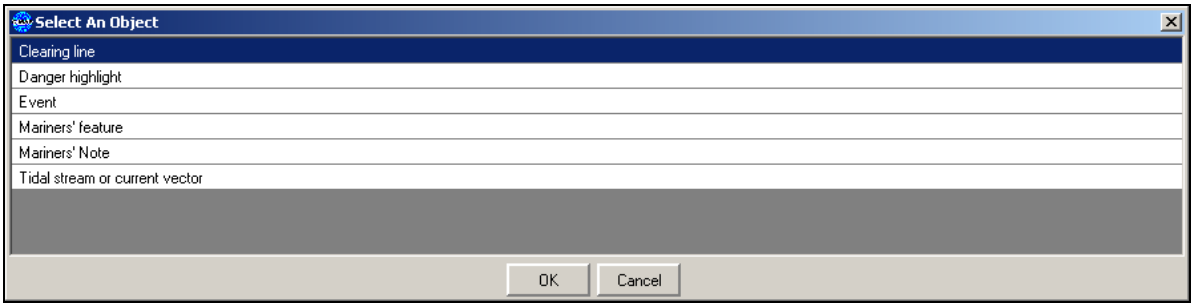


Event, Mariners' features, Mariners' Notes and Tidal streams

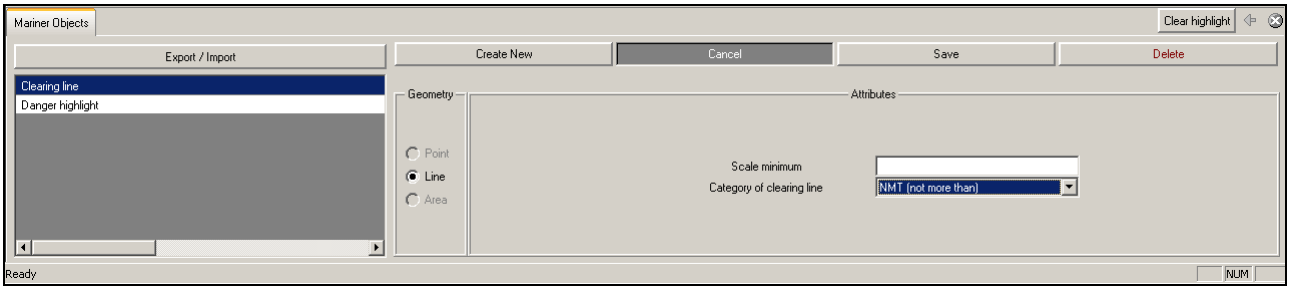
7.2 Creation and Editing

1) To create a new Mariner's object, press the **Create New** button.

2) In the **Select An Object** dialog box select an appropriate object class.



3) Press **OK** to activate the Edit mode. The **Edit** button should be pressed (when pressed, its name is changed to **Cancel**).



4) Select the geometry of the object (point, line or area if available) and fill the object attributes. If you leave the **Scale minimum** field blank, the object will be displayed at any scale.

5) Click with the LEFT mouse button on the chart to plot the object. (In case of line or area "draw" an appropriate shape).

6) Press the **Save** button to complete the object creation. To cancel the creation of the object, press (release) the **Edit** button.

Remark _____

When you draw a clearing line, note that the first point is the end of vector (significant land feature) and the second point is the start vector point. Clearing line direction is calculated automatically from the start (second click) to the end (first click) points.

To edit an object, select it in the list and press the **Edit** button. Editing principles on the chart are the same as for the **Measurement** tool (see chapter VI.8.1).

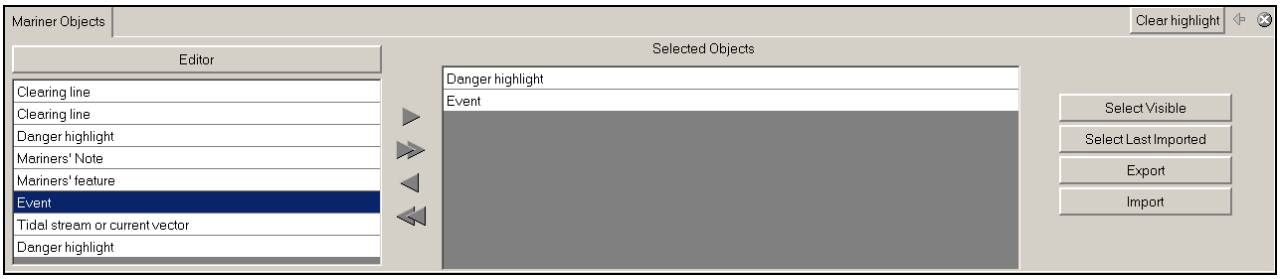
To delete an object, select it in the list and press **Delete**. You can delete an object even when you are in the Edit mode (while you edit an object you can select other objects in the list and delete them).

To find an object that you see in the list double-click on it. The object will be in the center of the screen and highlighted. Press the **Clear highlight** button in the upper right corner of the **Functional panel** to clear the highlighting.

7.3 Export and Import

Mariners' objects are intended to be used primarily by mariners. One of the main advantages of OceanView™ is the possibility to exchange data between multiple users, e.g. Mariners and Offices. Objects can be exported to external OceanView™ files (with the .dat extension), sent to other users as usual MS Windows files and imported back from the file to OceanView™.

The **Export / Import** button is provided for this purpose. When you press it a **Selected Objects** box appears.



(Press the **Editor** button to return back to the Edit box)

➢ **Add object**. You can add or remove objects from the **Selected Objects** window one by one with the and buttons. To add or remove all objects, use the and buttons.

➢ **Select Visible**. All objects inside the chart window limits (visible and hidden due to the scale attribute) will be added. If you have added any objects prior to this operation they will be removed. In other words, only objects inside the chart window will be in the **Selected Objects** window.

➢ **Export**. A standard MS Windows **Save as** window appears: enter the desired file name and save the file. All objects from the **Selected Objects** window will be exported. The default folder for saving Mariners' Object files is set up in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0).

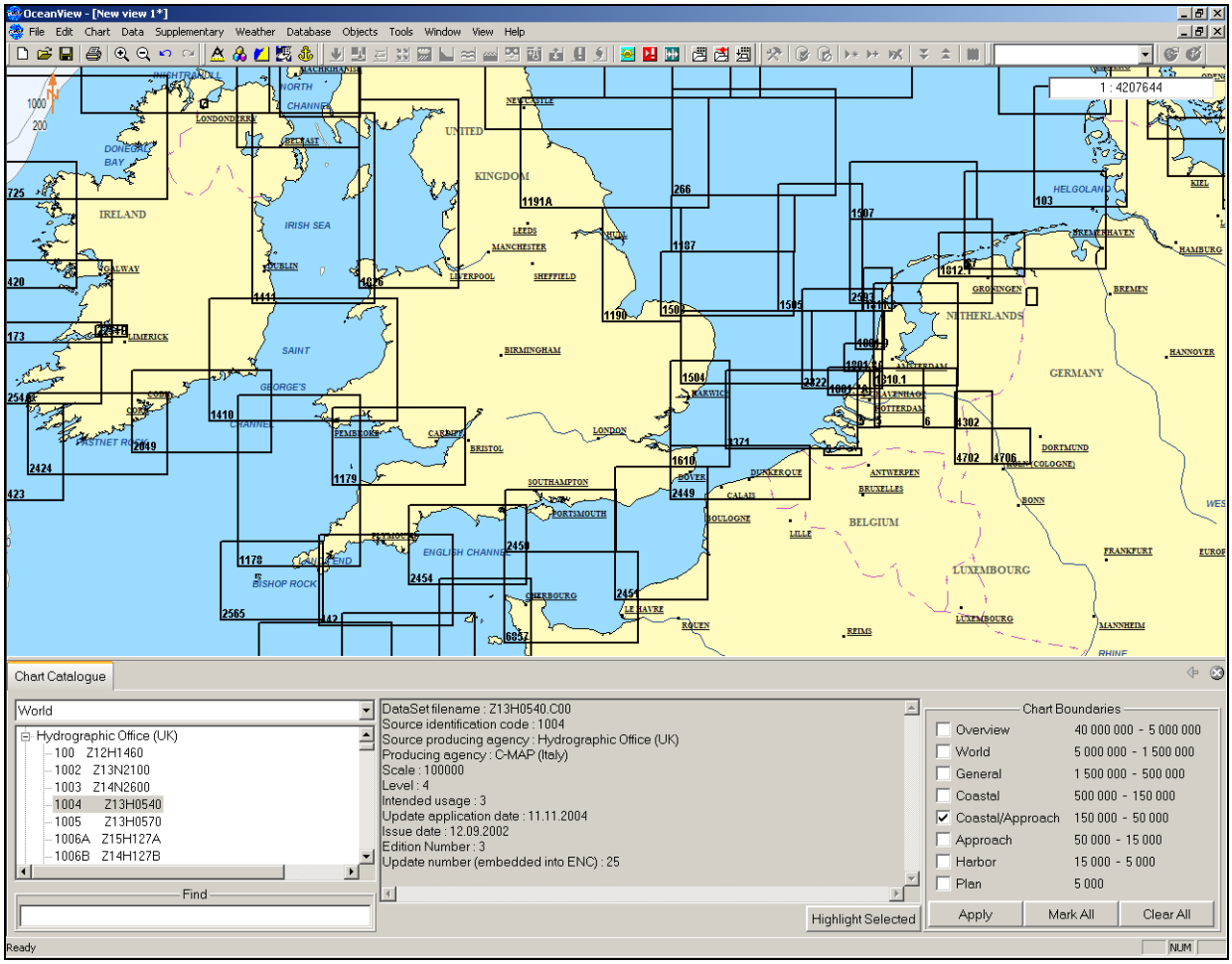
➢ **Import**. A standard MS Windows **Open** window appears and you can select a DAT file containing Mariners' objects. Please note that as soon as you have imported objects they appear in the **Selected Objects** window and automatically on the chart. You do not need to transfer objects from that window.

➢ **Select last Imported**. If you imported objects from a DAT file during the current OceanView™ session these objects (and no other) will be in the **Selected Objects** window. If you have not imported any object yet this command clears the list.

8.0 Chart Catalogue

OceanView™ allows you to obtain detailed information about Source charts used during chart production and for issuing updates (corrections), as well as their digital copies (datasets).

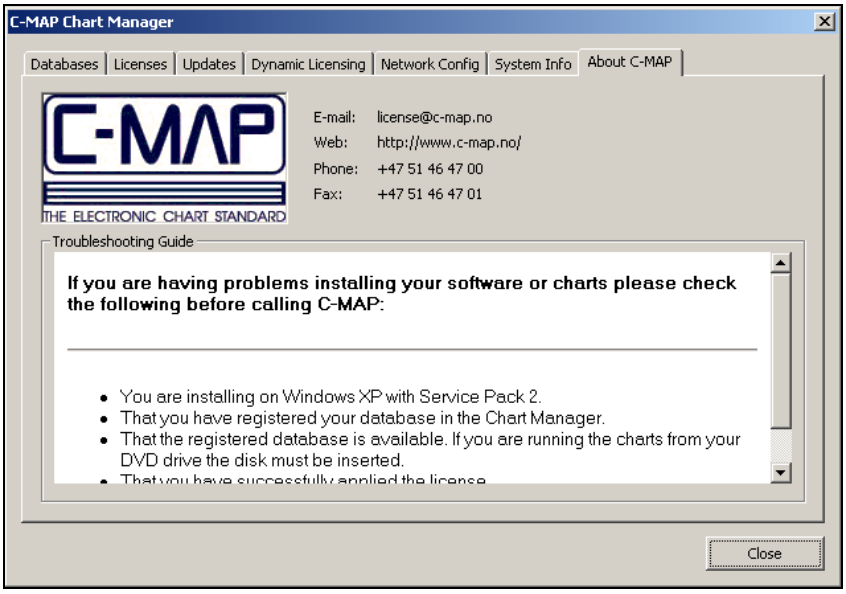
Go to the **Data > Chart Catalogue** menu command.



You can view all charts collected in one or more cartographic layers (right hand window) or find any chart you are interested in (left hand window). When you select the chart in the list all information relating to it is shown in the middle window.

9.0 Troubleshooting with Databases

If you encounter a problem with CM 93/3 databases registration, licensing, viewing, renewing, or updating, first of all check information in the **About C-MAP** tab. Go to **Data > Chart Management** menu command and in the **C-MAP Chart Manager** window, select the **About C-MAP** tab.


C-MAP Chart Manager
Databases
Licenses
Updates
Dynamic Licensing
Network Config
System Info
About C-MAP
C-MAP
THE ELECTRONIC CHART STANDARD
E-mail: license@c-map.no
Web: http://www.c-map.no/
Phone: +47 51 46 47 00
Fax: +47 51 46 47 01
Troubleshooting Guide
If you are having problems installing your software or charts please check the following before calling C-MAP:
You are installing on Windows XP with Service Pack 2.
That you have registered your database in the Chart Manager.
That the registered database is available. If you are running the charts from your DVD drive the disk must be inserted.
Close

The tab displays the required contact information, as well as the troubleshooting guide.

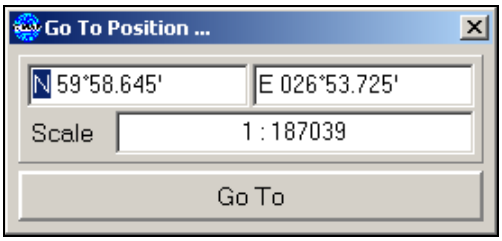
VI. WORK WITH CHARTS

1.0 Moving Around the World.

➢ Click with the LEFT mouse button on any place inside the chart window. The point where you click becomes a new center position**.**

➢ Press and hold the RIGHT mouse button. The chart will scroll slowly but continuously.

➢ **Chart > Go to position** (or move the mouse pointer over the Scale indicator, click there, and press the icon) to open the **Go To Position** panel.



Type in the desired position and it will be set as a new central position. When this window first appears it displays the current screen center position.

All highlighted parts are editable. North, South, East and West can be changed with N, S, E, W keys on the keyboard or with UP and DOWN arrows. Moving selection to degrees, minutes and fractions of minute can be done with the LEFT and RIGHT keyboard arrows. The TAB button selects Latitude, Longitude and Scale in sequence.

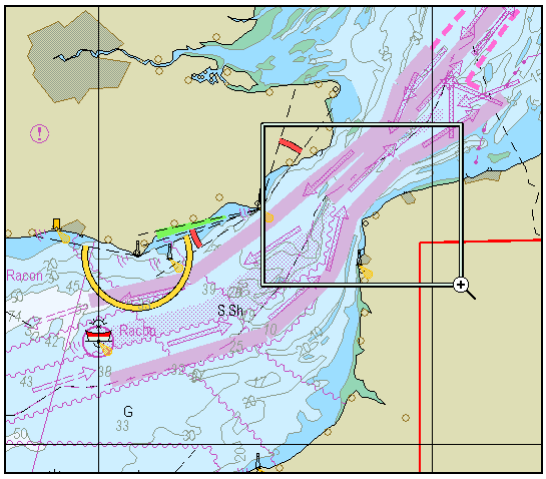
Please note that besides the position you can also enter the scale value here.

Press **Go To** button to change the screen position and scale.

2.0 Changing Chart Scale.

There are several methods for changing the chart scale:

➢ Drawing a boundary box around the area you wish to zoom.



1) Press and hold down the LEFT mouse button
2) Draw a box around the area you wish to zoom using the mouse pointer.
3) Release the mouse button. The area inside the box will be shown in the whole chart window.

If you want to cancel this action press ESC key while drawing.

To zoom the chart out do the same but hold the SHIFT key down.

Remark

In case of zooming out the whole chart window will show the coverage that was inside the boundary box after releasing the LEFT mouse button.

➢ (F5) doubles the scale and (F6) halves it.

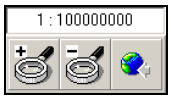
➢ Turn the mouse wheel forward to increase scale and backward to decrease scale. This way you will change the scale slowly but continuously.

Remark

This kind of zoom gives + 5% or – 5% of the current scale. Please note that sometimes turning the mouse wheel has effect and this is caused by an MS Windows feature. Press the mouse wheel while the mouse pointer is inside the chart area to restore availability of this kind of zoom.

➢ Type scale directly in the **Scale indicator**.

➢ Use the **Scale panel** that appears when you click in the **Scale indicator**.



The buttons and are equal to the buttons and accordingly. The button opens the **Go To Position** panel. This panel is described in chapter VI.1.0. You can also change scale here.

➢ **Chart > Set Original scale**. This will change the scale to the "scale of compilation" (original scale of the source paper navigational chart).

➢ **Chart > Set Best scale**. The largest scale chart available in its original scale will be displayed. The search among charts is carried out for the central screen position.

3.0 Bookmarks.

The central screen position and current scale define the current view. There are several methods of changing a view.

➢ The and buttons on the Toolbar change a view to the previous one and back again.

➢ The button changes to the view at start-up in a scale of 1:100 000 000 and shows the whole world map.

➢ Internal OceanView™ Bookmarks. You have possibility to save a current view as a bookmark and open it later.

To save a bookmark:

1) Set a view by choosing a position and scale.

2) Type in the bookmark name in a special box on the Toolbar.

3) Press ENTER. The bookmark is now saved.

To open a bookmark:

1) Press on the downward arrow to see the list of bookmarks.

2) Select the bookmark from the list.

3) Press the icon. The screen is moved to the saved view.

To delete a bookmark:

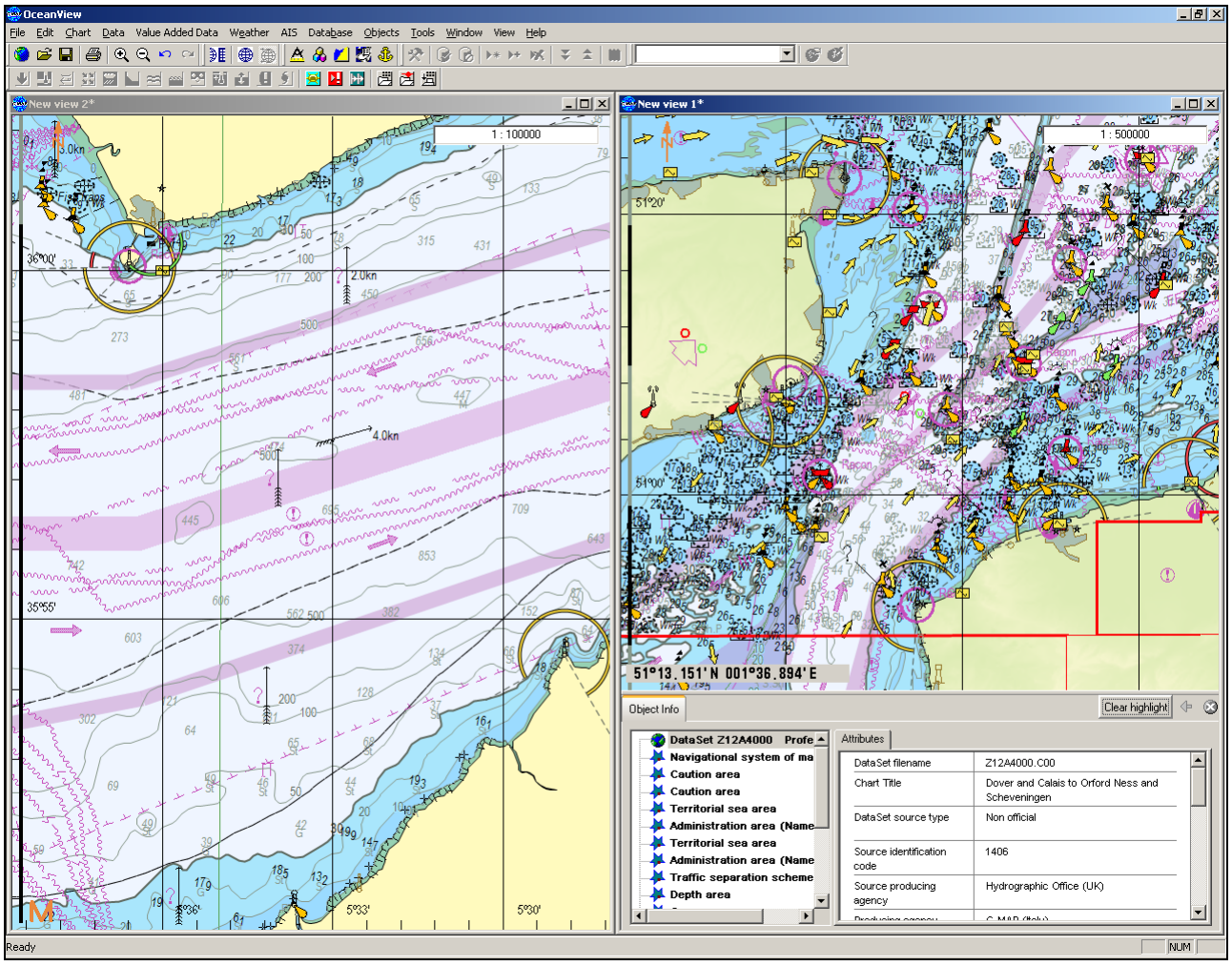
1) Press the downward arrow to see the list of bookmarks.

2) Select the bookmark from the list.

3) Press the icon. The selected bookmark is deleted.

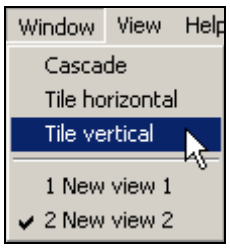
4.0 Multi-windows Feature.

OceanView™ allows you to work with several windows opened simultaneously. Each window can be configured with its own presentation settings (see chapters X.2.0, X.3.0).



In order to open a new window use the **File > New** command (or press CTRL-N), this will show a new world map. Opening an external bookmark also opens a new window.

The **Window** menu is assigned to manipulate separate windows. Here you can switch between windows and arrange them in normal windows styles (**Cascade**, **Tile horizontal** and **Tile vertical**).



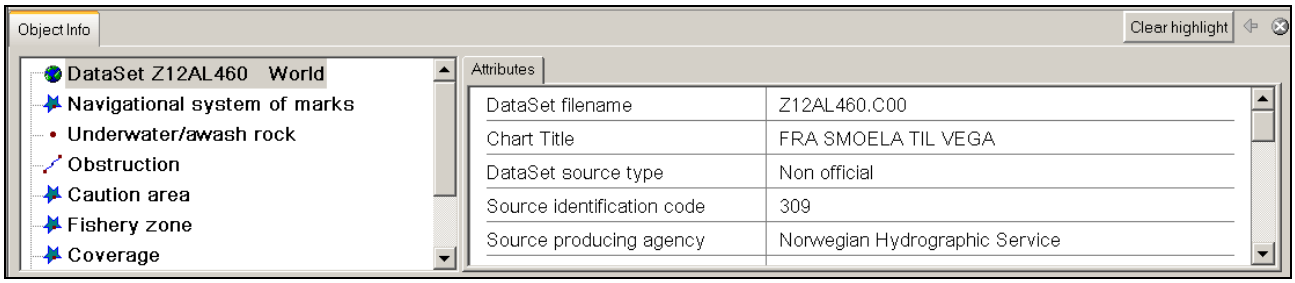
In order to close a window, use the **File > Close** command (or ✕ button on the window **Title bar**).

Remark

Please note that OceanView™ will not close the last window. Thus, at least one window is always opened.

5.0 Object Info Functional Panel

All electronic chart information can be accessed via the **Object Info** functional panel. The panel appears every time you click with the right mouse button on the chart.



This panel consists of two parts: object tree and list of attributes of the selected object. Objects are cartographic features that were under the cursor at the instance of clicking.

The top object in the tree is always the name of the dataset. Among its attributes are such parameters as Chart Title, Source producing agency (HO) and Compilation Scale of Data, etc.

Other objects can be Depth area with depth range in the attributes, Caution, Administration, Territorial sea, Land areas that usually include all explanatory and cautionary notes from the appropriate chart, Navigational system of marks displays IALA region (A or B), Lines (recommended tracks, leading lines, depth contours, Traffic separation scheme boundaries, etc. with exact direction value) and point objects (lighthouses, buoys, landmarks, wrecks, seabed abbreviations, soundings, pilot boarding places, etc. with all relevant information) will be listed and their attributes shown. This feature is one of the main advantages of vector charts and ENC. A lot of useful information can be accessed on this panel without reference to other sources, such as the List of Lights for example.

The following symbols are used to display different object types in the object tree:

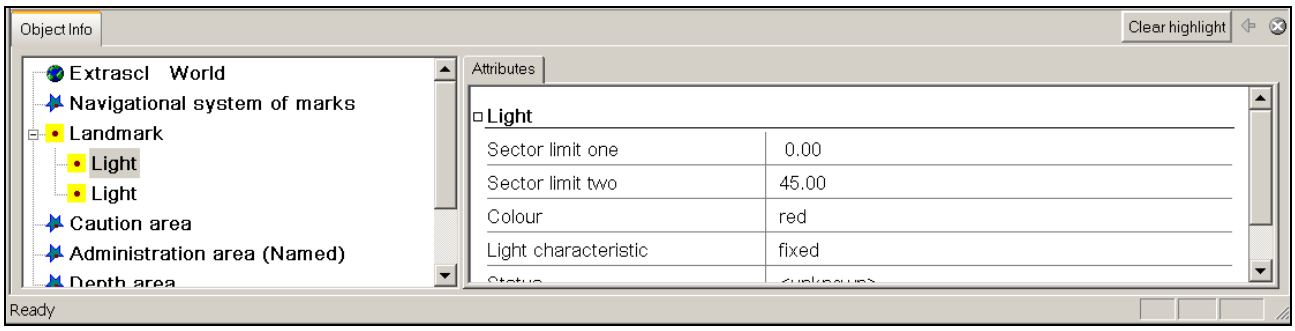
Name of the Dataset

Area type object

Point type object

Line type object

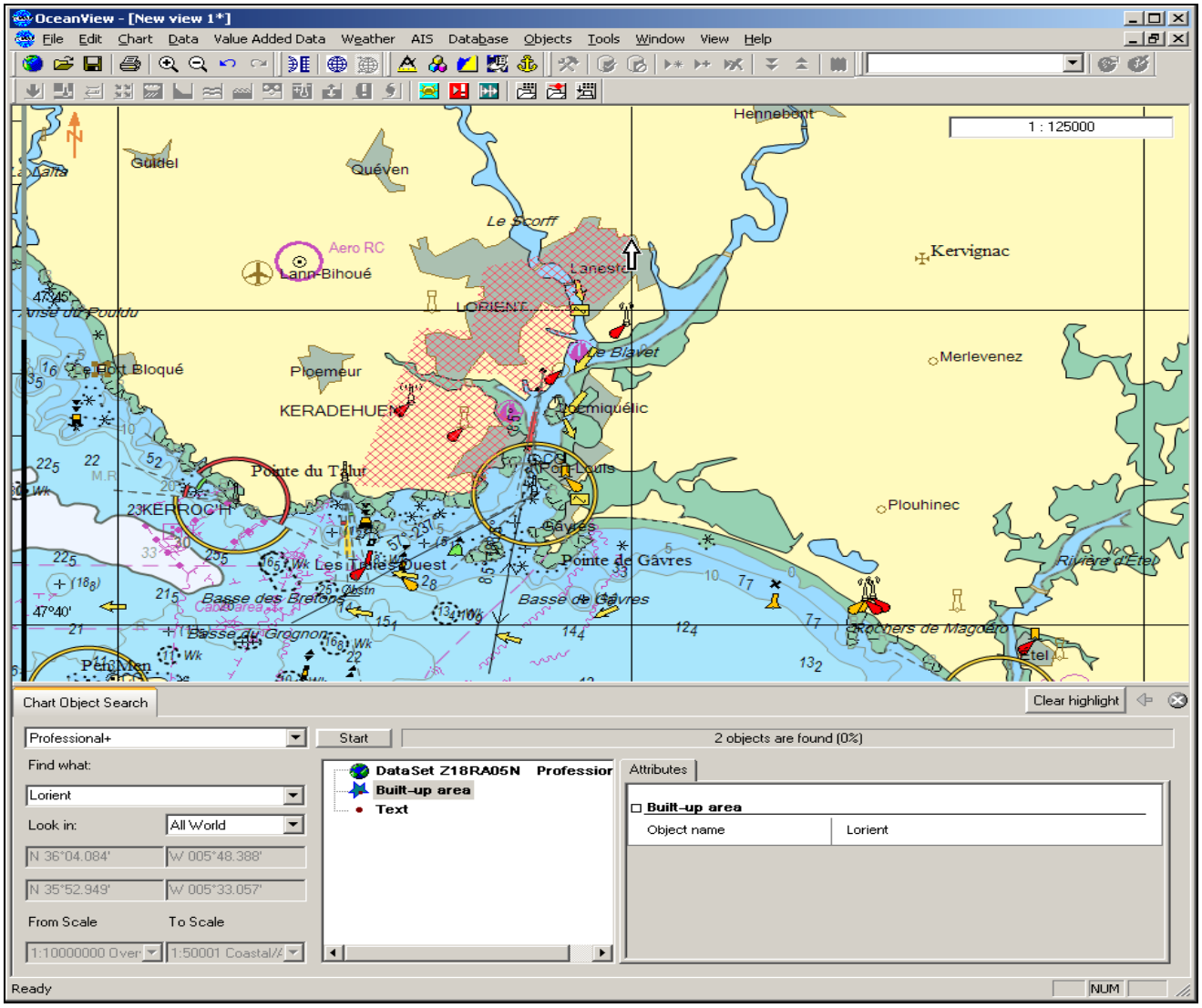
If an object symbol has yellow background it means that the object has been updated by means of auto or manual updating. The background stays yellow until the updated object is added to the chart as a regular object that is until a new chart edition is issued.



Double-click on the object in the list to highlight it on the chart. To clear the object highlighting, press the **Clear highlight** button.

6.0 Cartographic Objects Search

To access to the cartographic object search function, go to the **Data > Chart Object Search** menu command. The Chart Object Search functional panel will open.



The function scans chart objects and their attributes. All objects with attributes values matching the text entered to the **Find what** field of the **Chart Object Search** panel will be listed in the panel. In order to understand how the search function works you have to know how an electronic chart is organized and general principles of its internal structure. For more information see chapter II.4.0.

To find a geographic object:

1) Select a database in which you will search the object in the drop-down list located in the upper left corner of the panel.

2) Enter the name of the geographic object you want to find to the **Find what** field.

3) Select the search area in the **Look in** drop-down list. It can be:

- **Screen** – Search among all objects inside the chart window borders.

- **Region** – Search among all objects inside a specified geographic region. In this case you may enter coordinates of the north-west and south-east corners of the area. Also, when you search inside a geographic region, you may set scale range by assigning **From Scale** and **To Scale** values. It means that if an object is displayed on the chart at a scale out of your range it does not appear in the list.

- **All World** – Search among all available objects of the specified database.

4) Press **Start**.

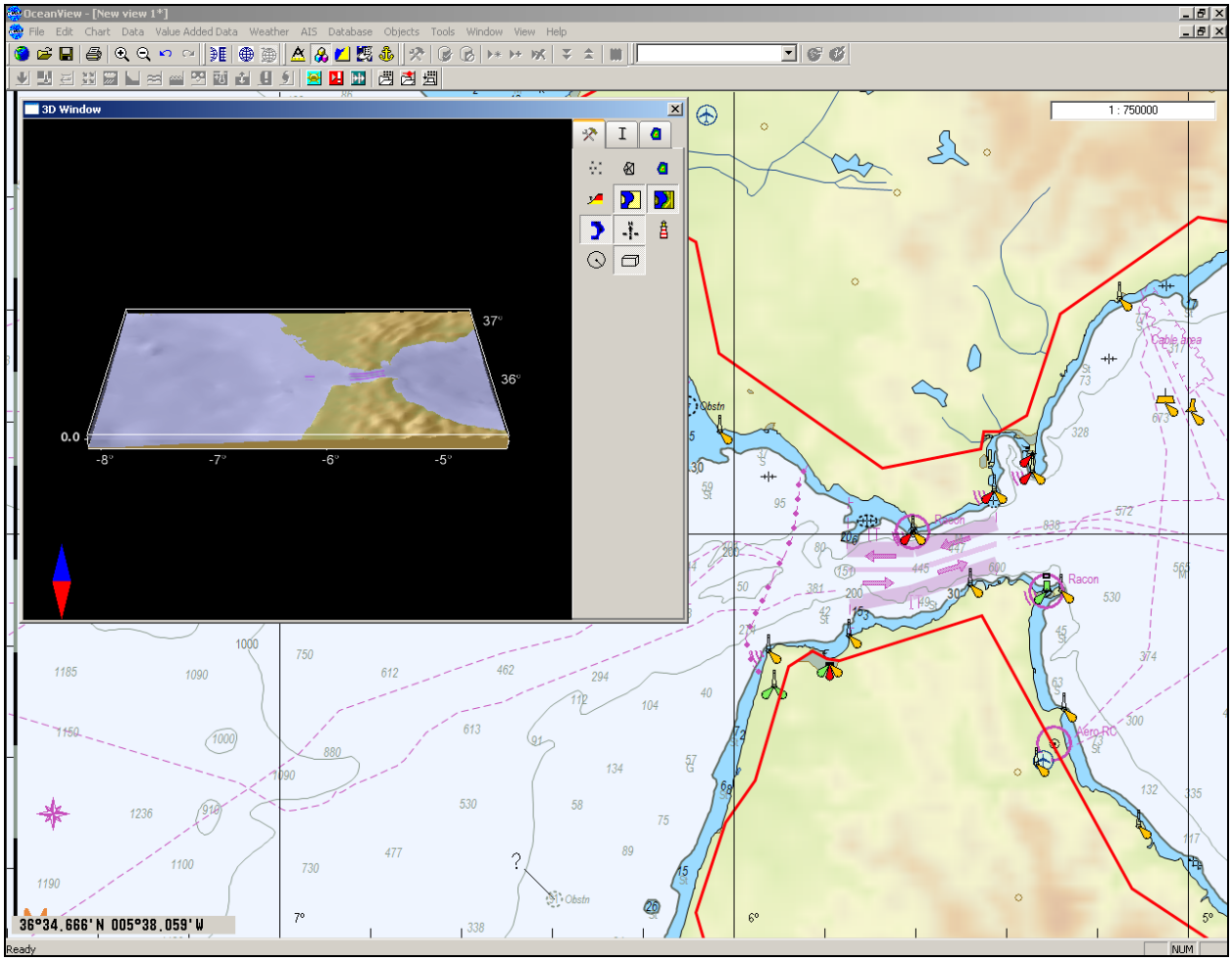
After that, the function starts searching. You may see on the panel the percentage of what is done. After completing, a list of all found objects appears in the central box. The **Attributes** box displays all attributes of the object selected in the list. Information is organized in the same way as in the **Object Info** panel (see chapter VI.5.0).

For example, you set the search of an object with the name "Lorient", inside the screen. The function will scan all objects inside the chart window borders. If an object has any text attribute set, this function checks whether contents of the attributes include the text "Lorient" or not. If the text "Lorient" is found, the object appears in the list with all its attributes.

5) You can stop the object search process before it is finished. To do so press the **Stop** button (the **Start** button changes its name to **Stop** after the search has begun). The list of found objects will display the objects found before the search process was interrupted.

7.0 Three-dimensional View of the Seabed.

Three-dimensional mode is intended for deep analysis of the sea bottom relief. Press the button (or go to **Tools > 3D View** menu command) to open the OceanView™ **3D Window**.



The 3D Window tools are arranged in three tool tabs: View Elements tab, Vertical Scale tab, and Palettes tab.

In the **View Elements** tab the following tools are located:

Vertices – shows/hides initial depth and height points

Wireframe – shows/hides surface grid

Colored z layers – paints depth layers with colors of a specified palette

Alarm area – paints alarm depth layer with a special color

Water surface – shows/hides water surface

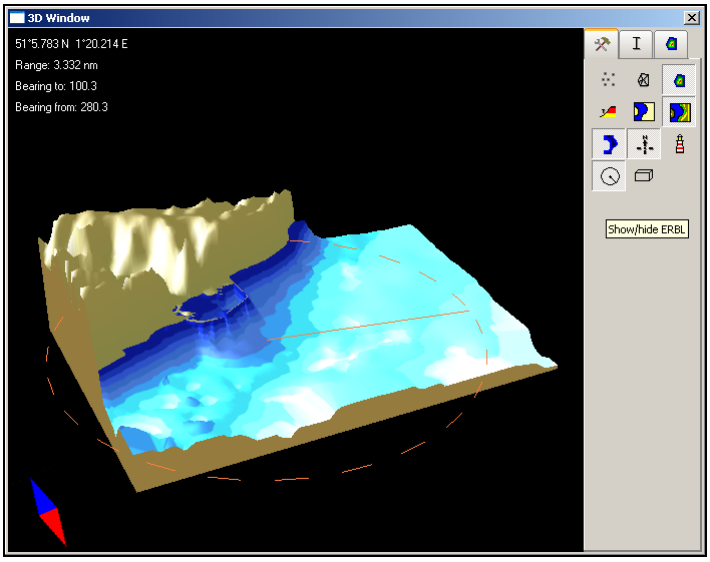
Terrain – draws terrain in 3D view (information is given from special file)

Seabed – shows/hides seabed

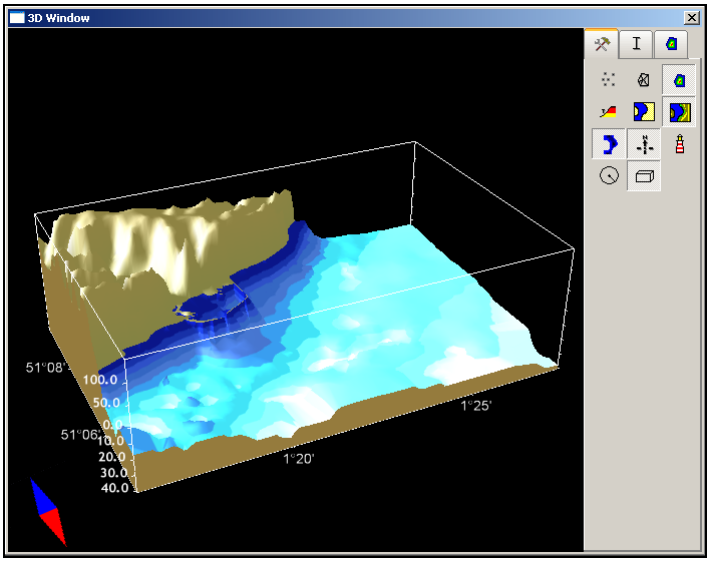
Compass – shows/hides the image of the compass in the lower left window corner

Navigation Aids – shows/hides the images of aids to navigation

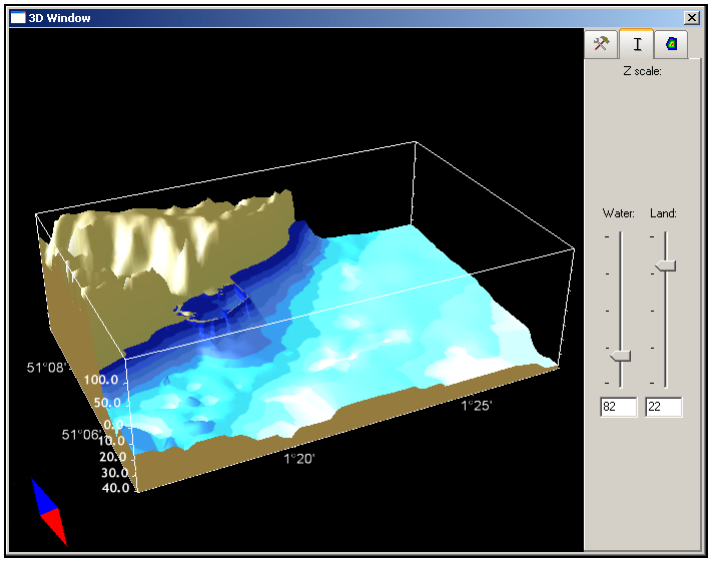
ERBL tool – draws Electronic Range Bearing Line in 3D window and allows calculating Range, Bearing to and Bearing from as in the map window (see chapter VI.8.2)



Depth and coordinate scale frame – shows frame with values of depth, latitude and longitude coordinate scales

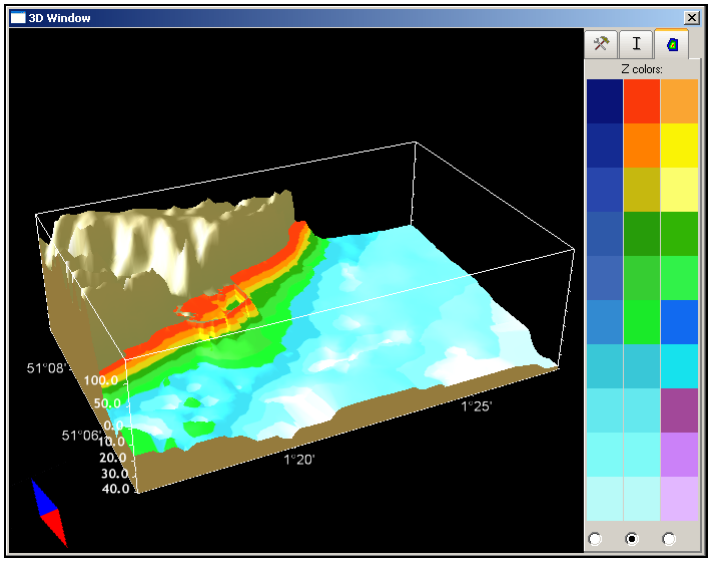


In the **Vertical Scale** tab you can adjust vertical scale for the best presentation of the surface. Land surface and seabed surface scales are configured separately.



The vertical scale with the value of 1 displayed in the field under the scale control (slider in the highest position) means that the vertical scale is the same as the chart scale. The vertical scale with the value of 100 is 100 times larger than the chart scale.

In the **Palettes** tab you can select the palette to color z layers of 3-dimensional surface.



Please, notice, that some of these options can operate only with other options switched on.

You can zoom and rotate the 3D model. To zoom the model in or out, rotate the mouse wheel forward or backward respectively. To rotate the model in horizontal plane, hold the left mouse button and move the mouse; to rotate the model in the vertical plane, hold the right mouse button and move the mouse.

If you change the view of the map (zoom in, zoom out, or scroll the map), the 3D view will be changed automatically.

8.0 Measuring Distances and Directions

There are two tools for measuring distances and directions in OceanView™.

8.1 Measurement Tool

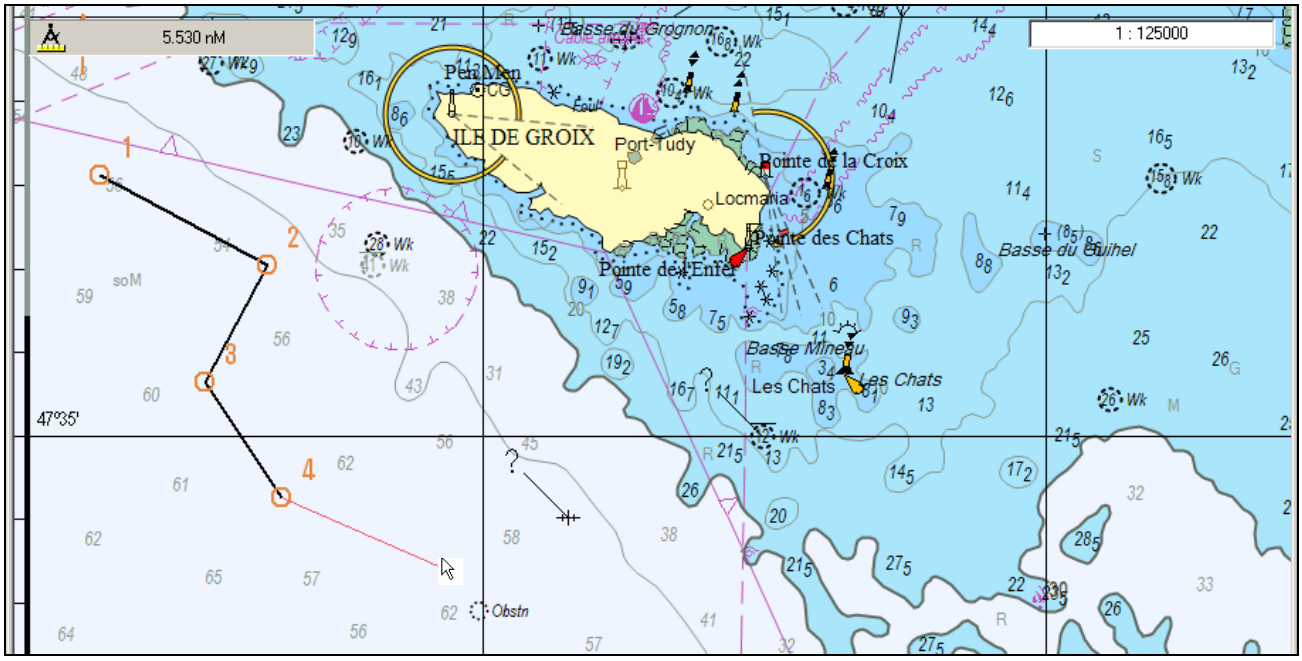
Measurement tool is activated by pressing the button or with the **Tools > Measurement** command.

The **Result of measurement** indicator will appear in the upper left corner of the chart window. It displays the total distance between the first and the last points.

The principles of working with the **Measurement** tool are as follows:

Add point. Click with the LEFT mouse button on the chart. The point number (1) in a yellow circle will appear. Move the cursor and a thin red line linking this point and the mouse pointer is displayed. This can be useful for checking the second point position. Click with the LEFT mouse button in a new place on the chart. The second point (2) will now appear. The next LEFT click will plot the next point and so on.

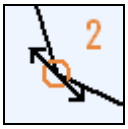
Checking point position. Pressing and holding down the LEFT mouse button while adding points allows controlling the point position. Release the mouse button to plot the point.



Scrolling and zoom in or out. While you are in the Measurement mode any LEFT click plots a new point. In order to scroll the chart window or zoom it with a boundary box press and hold down the CTRL key. While the CTRL key is held down, you can scroll and zoom with the boundary box in the same way as in the chart view mode (to zoom out, press and hold down the CTRL and SHIFT keys simultaneously) (see chapters VI.1.0 and VI.2.0).

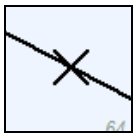
Insert a point before the first one. Move the mouse pointer over the first point. The thin red line will be linked to it instead of the last point. Click with the LEFT mouse button. A new point has been inserted before the first one. In the same way you can move the mouse pointer over the last point and resume adding points from the last one.

Delete point. In order to delete a point move the mouse pointer over it. The thin red line will disappear and a special symbol will be displayed. Press the RIGHT mouse button to delete the point.

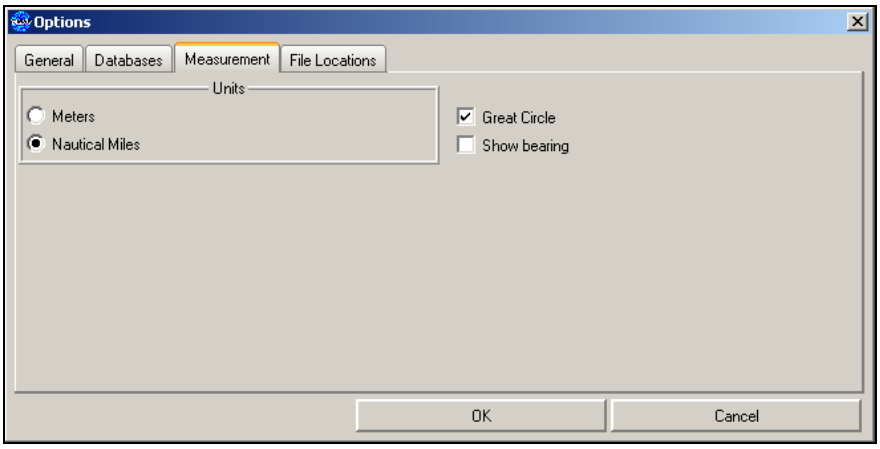


Move point. In order to move a point, locate the mouse pointer over it and press the LEFT mouse button. A special symbol will be displayed. Choose the new point position and press the LEFT mouse button again. The point has now been moved. Press ESC to cancel the operation.

Insert point between two existing points. In order to insert a point between two existing points move the mouse pointer over the line between them. A special symbol will be displayed. Press the LEFT mouse button, choose the new point position and press the LEFT mouse button again to insert the point. Press ESC to cancel the operation.



To change settings of the Measurement tool, go to **Tools > Options**, in the **Options** window, select the **Measurement** tab.



You can edit the following settings:

- measurement units: meters or nautical miles
- to display directions or not (**Show bearing** option)
- to compute legs as great circle or rhumb lines (**Great circle** option)

Remark _____

*In the great circle mode a leg always consists of a number of rhumb lines with a limited length. The value of that limitation is set so as to get negligible errors. Therefore in this mode you will see several values of direction along the line if the **Show bearing** option is on.*

Also, while you move the cursor along the great circle line you can notice appearance of the "Delete point" symbol which should be displayed above the point only. It means that the "separation" point is actually under the cursor but just hidden. This feature with "separation" point affects the appearance of this symbol only and does not affect any other measurement functions.

*When you work with several windows and would like to unify these settings for all windows, switch to the option **Tools > Options > General > Apply settings to all Map Windows**. If it is not checked, the settings are applied to the active window only.*

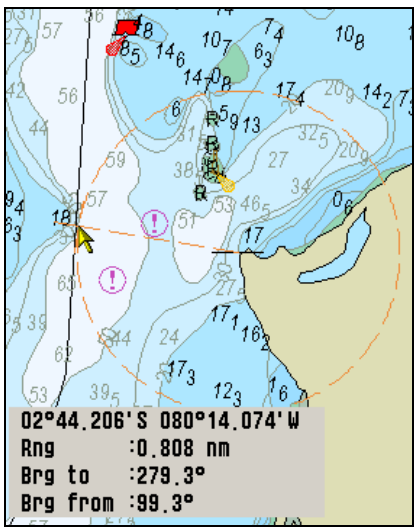
8.2 ERBL (Electronic Range Bearing Line) Tool

To call ERBL, go to the **Tools > ERBL** menu command.

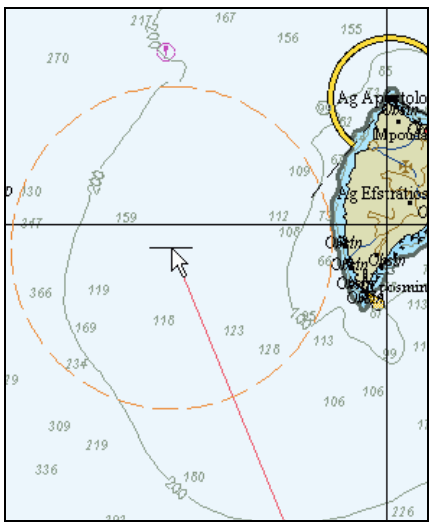
During work with ERBL, pressing LEFT mouse button causes no action. This feature allows using ERBL together with, for example, Route Planning, by checking clearance of a route from dangers. Two ERBL modes are possible:

1) **Measuring distance and bearing from an object**. Move cursor over an object (a cape, for example) and press RIGHT mouse button. ERBL center will be fixed at the object position. After that, move the cursor aside. In the lower left corner of the chart window, the following information is displayed: distance from ERBL center to cursor (**Rng**), bearing from the ERBL center to the cursor (**Brg to**) and bearing from the cursor to the ERBL center (**Brg from**). To measure distance and bearing from another object, move the cursor over the object and click twice with the RIGHT mouse button.

2) **Clearance check**. Fix the ERBL center with pressing the RIGHT mouse button. Move the cursor aside until the distance between the cursor and the ERBL center reaches a required value (distance is displayed in the lower left corner of the chart window in the **Rng** field). Press the RIGHT mouse button again. This fixes a range line. When you move the cursor, the range line will also be moved. Thus, during Route planning you can estimate distance from a waypoint to dangers. To set a different distance press the RIGHT mouse button.



Measuring distance and bearing from an object



Clearance check

To close the ERBL tool, uncheck the **Tools > ERBL** menu command.

VII. VOYAGE PLANNING

1.0 General Information

1.1 Voyage Planning in General

Let us consider the process of voyage planning. It can be divided into two parts: preliminary planning in the Shipping Company and detailed planning carried out by Navigator.

➢ **Preliminary planning includes**:

1) Defining ports of call (loading and discharging) according to planning contract, as well as defining possible passages in ballast.

2) Preliminary route planning for getting estimated time of arrival (ETA) and estimated time of departure (ETD) for all ports of the designated voyage. If the vessel shall pass canals or channels, which increases voyage time and requires additional payment, it is counted also.

3) Financial calculations, including estimated profit of transportation and expenses required for cargo operations and entering into ports.

4) Simultaneously bunkering is defined (where, when and how the vessel will bunker). Bunker cost is included to expenses. Under no circumstances a vessel shall be loaded above the loadline. Therefore voyage region, season and water salinity in ports of call limit maximum quantity of cargo, which the vessel may load.

5) On the other hand, loading can be limited my maximum draft for passing canal and channels, as well as for entering into ports.

6) Taking into account the fact that fuel consumption often depends on vessel's speed, it might be sometimes preferably to increase voyage duration by few days, but to decrease at the same time bunker expenses. Therefore calculation of the most "profitable" speed is necessary.

➢ **For detailed voyage planning on board the Navigator shall**:

1) Find out the Port of Destination.

2) Define general route direction on a small scale chart.

3) Check with Chart Catalogue availability of all charts and publications along the route and request what is absent.

4) Correct charts and publications up to the latest Notice to Mariners.

5) Plot the route on large scale charts, taking into account all hazards, Traffic Separation Schemes, recommended tracks, weather forecast, seasonal and predominant currents and winds, etc.

6) Calculate accurately the Total Distance and ETA. Engineers provide fuel consumption figures.

7) Collect all requirements and regulations along the route, including reporting areas, location and working frequencies of weather forecast and navigational information transmission stations.

8) Collect all necessary information about Port of Destination including tidal information, port regulations, pilotage requirements, etc.

1.2 OceanView™ Tools for Voyage Planning

To start Voyage planning, press the button or go to the **Tools > Route planning** menu command. Route planning tools are located on three panels: **Route Finder**, **Route Planning** and **Voyage report**.

Route Finder assists you in creating a new route. After adding all ports of call to the itinerary, Route Finder automatically creates the route and your task is to check and fix it if necessary with the Route Planning tool. In this way you should save time for route planning comparing to creating a new route manually.

Route Planning allows editing an existing route and creating a new one manually. Moreover, route and voyage information such as waypoints, critical points and voyage schedule, is accessed in the Edit route mode of that tool.

OceanView™ therefore gives you two ways for route creation: automatic with the Route Finder tool and manual with the Route Planning tool.

The **Voyage report** tool gives summary information about the voyage.

1.3 Voyage Planning with OceanView™

With OceanView™ the voyage planning process is supposed to be carried out in the following sequence:

1) Ensure you have all charts necessary (see chapter IV.6.0).

2) Update all charts by means of Auto updating (see chapter V.5.0).

3) Check NAVTEX and other navigational warning messages. If necessary, apply manual update (see chapter V.6.0) that can be absent in Notices to Mariners and therefore not included in automatic updating.

4) Open the Route Finder functional panel – go to **Tools > Route planning** (see chapter VII.2.0).

5) Set your vessel draft and maximum height (see chapter VII.2.1).

6) Select ports of call and add them to the itinerary (see chapter VII.2.2).

7) Calculate the route (see chapter VII.2.5).

8) Add or remove necessary restrictions, if you are not satisfied with the route calculated (see chapter VII.2.6), and calculate again an alternative route.

9) Save the route (see chapter VII.2.7).

10) Switch to Route planning edit mode (**Route planning > Edit**, see chapter VII.4.0).

11) Check the created route on large scale charts. You can use the Check route function (see chapter VII.4.7). Also you can use Weather forecast (see chapter VII.8.0), GMDSS Master Plan (see chapter VII.11.0) and SAR Global Plan (see chapter VII.12.0) for getting additional information concerning the route. Edit the route manually, if necessary (see chapter VII.4.1).

12) While checking the route, ensure that Speed, Deviation, Turning radius and Great Circle sailing are correct for all parts of the route and modes of voyage (in port, from port and sea passage). Use the dedicated form "Parameters" in the Edit route mode (see chapter VII.4.4).

13) Total Distance and Passage Plan may be saved or printed out.

14) Arrange the Voyage Schedule. Input Time of Departure, Stop Duration in ports (or waiting for pilots). OceanView™ will calculate ETA automatically (see chapter VII.4.6).

15) Predict tides for all Ports of Call using the Tides tool (see chapter VII.7.0).

16) Set critical points along the route that is points of approaching to dangerous areas, mandatory reporting and vessel's procedure points (see chapter VII.4.5).

17) Switch to **Voyage report** section.

18) Set up fuel consumption figures and other maintenance costs. OceanView™ will calculate the whole Voyage cost (see chapter VII.6.0).

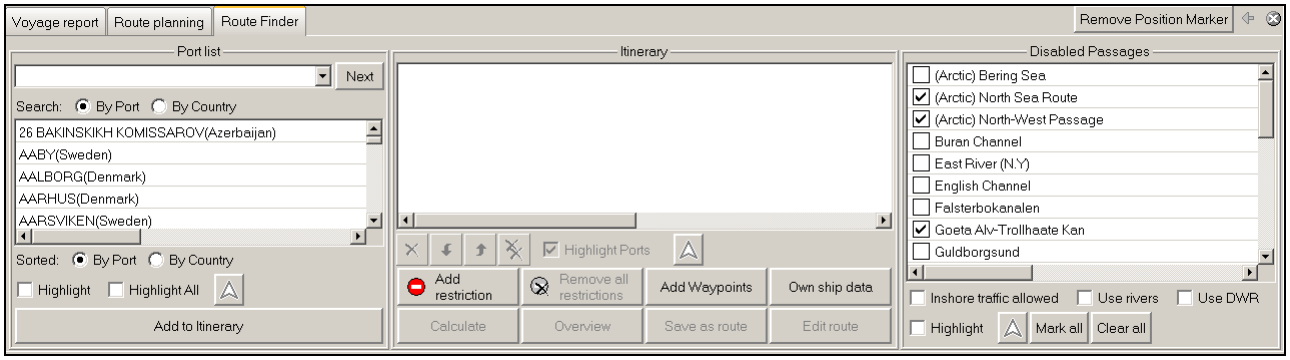
19) Print out the Voyage plan and summary report.

20) By means of the Mariner Objects tool, mark dangerous charted objects along the route and put your own marks on the chart (see chapter V.7.0).

21) During the voyage, obtain Chart updates from the C-MAP server (see chapter V.5.0) and Weather forecast (see chapter VII.8.0). Also apply Manual Update for charting information received from NAVTEX, NAVAREA, etc (see chapter V.6.0).

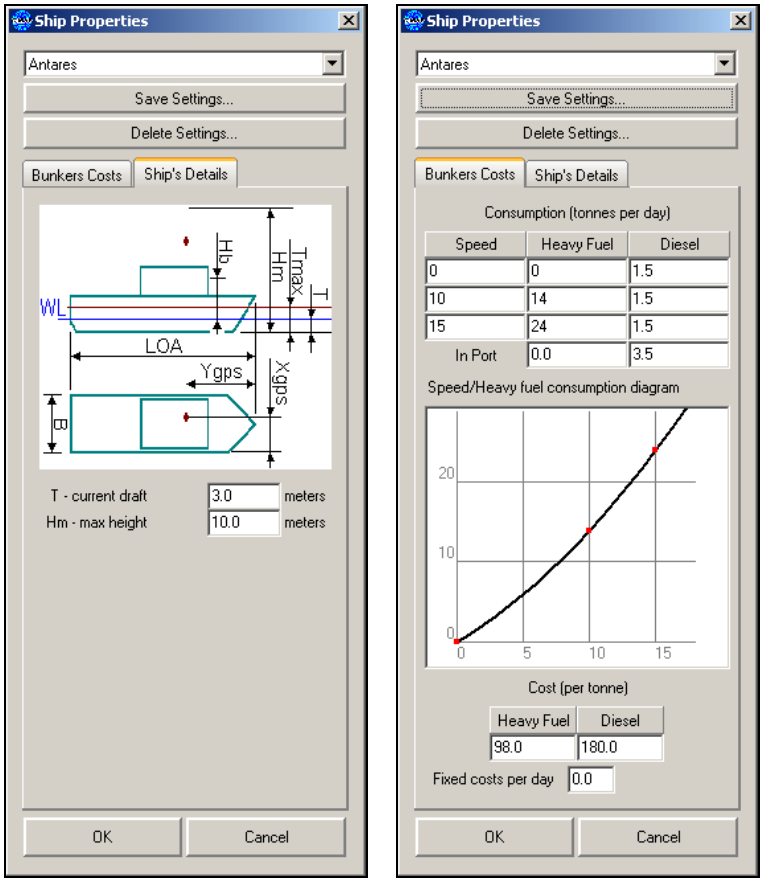
2.0 Route Finder

To start automatic route creation, press the button or go to the **Tools > Route planning** menu command. Switch to the **Route finder** panel.



2.1 Setting Own Ship Data

Press the **Own ship data** button. The **Ship properties** window will appear.



1) Input the maximum vessel height (the distance between lower keel and upper aerial points). This value is constant for the vessel.

2) Input the current draft.

3) Go to the **Bunker Costs** tab and input bunker figures. They are used for the Voyage report that will be created later (see chapter VII.6.0).

Consumption figures are constant for the same vessel. They represent Heavy Fuel and Diesel Oil consumption (in tons per day) depending on speed. The appropriate diagram is calculated automatically. Port consumption can also be put in.

4) Enter purchasing price for Heavy Fuel and Diesel Oil.

5) Input **Fixed costs per day**, meaning daily maintenance expenses.

All the data can be saved for future use:

1) Press the **Save Settings** button.

2) Input the vessel's name.

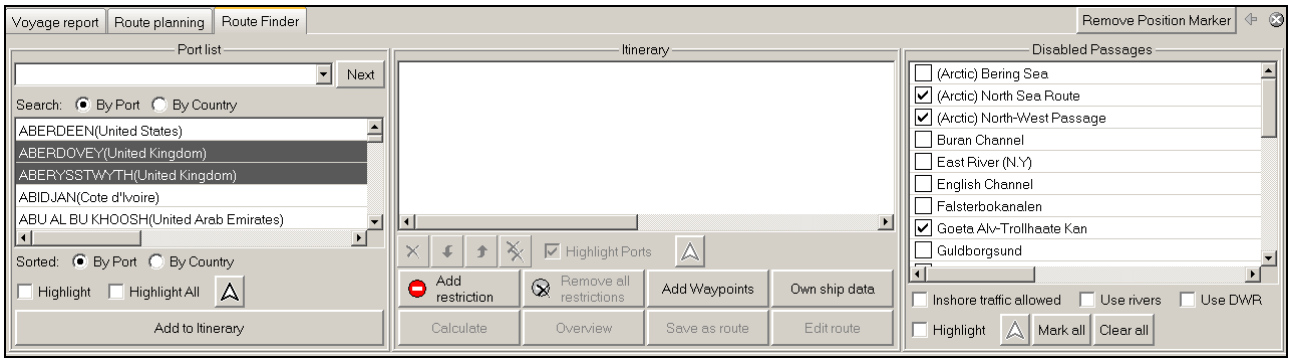
3) Press **OK** button.

In order to restore the settings just select the vessel in the list.

To delete settings for a specified vessel, select the name of the vessel in the drop-down list at the top of the **Ship Properties** window and press **Delete**.

2.2 Adding Ports to the Itinerary

On the left side of the **Route finder** panel there is a list of all available ports. They are sorted by Port name or by Country depending on the **Sorted** marker position.



If a port is highlighted with black background, it means that the maximum draft for the port is less than the current draft of your vessel set in the **Ship properties** window (see chapter VII.2.1). You cannot add such ports to the itinerary.

➢ **To add a port to the route if you know the name of the port**:

1) Select the port in the list. If the **Highlight** option is ticked, the port will be marked on the chart with a green circle. If you press the button located under ports list, the chart will be scrolled so that the port will be displayed in the center of the chart window and it will be marked with an arrow symbol.

2) Press the **Add to Itinerary** button.

Remark

An easier way of adding a port to the route by name is to move the cursor to the port in the list and to double-click on it.

➢ **To add a port to the route if you know its geographical location**:

1) Tick the **Highlight All** option. All ports stored in the database will be marked on the chart with yellow circles. If you move cursor on a circle, port name will appear on the screen as tooltip.

2) Move the cursor on the port and press the right mouse button.

For quick finding a port in the list, use the search function. Switch to the search by port by selecting the **By port** option and input the port name in the field above. The first port, whose name begins with the symbols you have typed, will be selected in the list. Continue inputting until the required port is selected or press the **Next** button to find the next port that includes the entered symbols.

If the search **By country** is set, the first port (in alphabetical order) of the country, whose name you are inputting, will be selected. Sorting order by country is recommended together with the search by country. In such case after finding the first port of a country, you can scroll the ports list and find the port you are looking for as it will be located near in the list.

2.3 Adding Waypoints to the Itinerary

Besides ports, you can add waypoints to the Itinerary:

1) Press the **Add Waypoints** button.

2) Move the mouse pointer to the required position on the chart.

3) Press and hold down the SHIFT key.

4) Press the LEFT mouse button. The waypoint will be added to the Itinerary.

5) Release the **Add Waypoints** button.

2.4 Editing the Itinerary

After adding ports and waypoints to the itinerary, you can do the following operations with them:

Delete from the itinerary.

Move the port down or up in the itinerary.

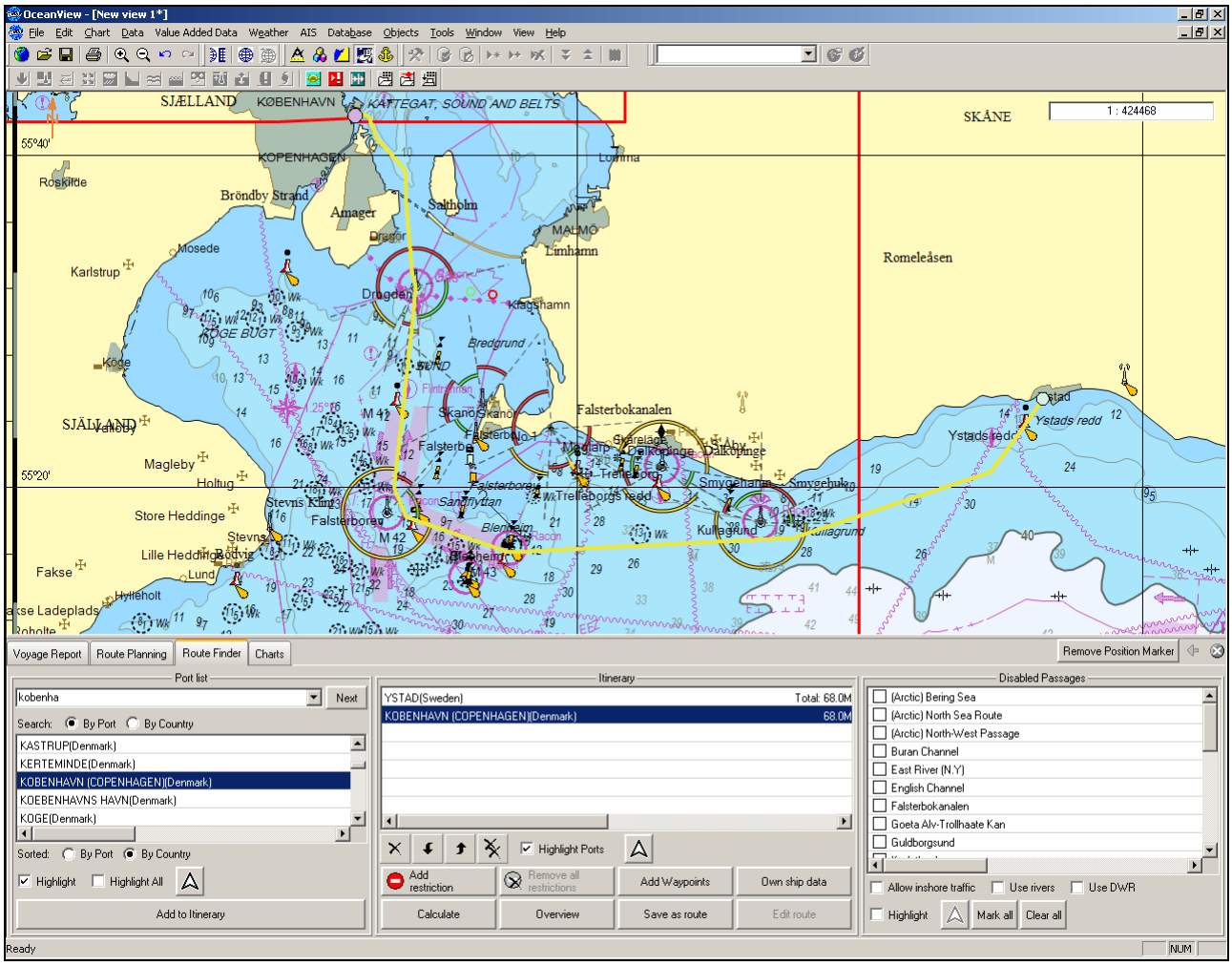
Clear the itinerary (remove all ports).

When the **Highlight Ports** checkbox is ticked, all ports in the itinerary are displayed on the chart as white circles and the port selected in the list is displayed as a violet circle.

Once this button is pressed the screen will be scrolled so that the port selected in the itinerary will be displayed in the center of chart window and it will be marked by an arrow symbol.

2.5 Route Calculation

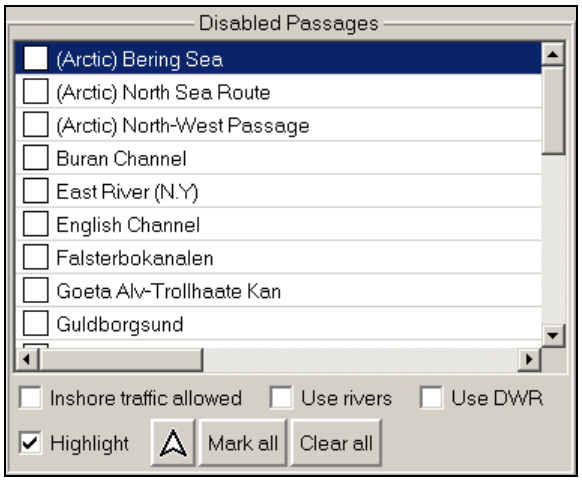
After adding all necessary ports and waypoints to the Itinerary, press the **Calculate** button. OceanView™ will calculate the shortest route among all available, taking into account your vessel current draft. The calculated route will be marked on the chart as a yellow line.



2.6 Adding Restrictions

If Route Finder has plotted the route through narrows, canals or channels which you did not plan to pass, you may set restrictions. There are two methods of setting restrictions.

➢ **The first method** of setting restrictions is allowing or prohibiting passing through certain canals or channels. In the right part of Route Finder panel remove ticks from passages which are allowed for navigating and tick the disabled ones.



To disable all passages, press the **Mark all** button. To enable all passages, press the **Clear all** button.

If the **Highlight** option is ticked, selection of a passage in the list causes highlighting the passage on the chart.

Once this button is pressed the screen will be scrolled so that the passage selected in the list will be displayed in the center of chart window and it will be marked by an arrow symbol.

If the **Inshore traffic allowed** option is ticked, all inshore traffic zones will be allowed for sailing. In such case a route might be plotted outside of Traffic Separation Schemes and be shorter.

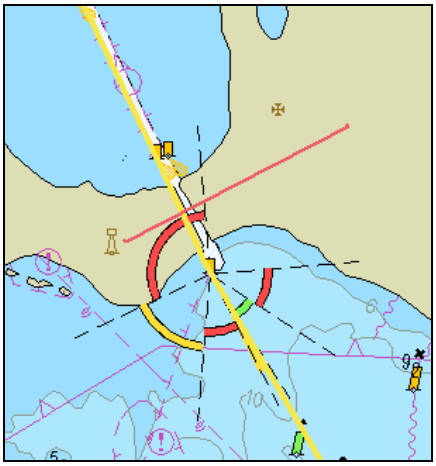
If the **Use rivers** option is ticked, a route might be plotted through inland waters.

The **Use DWR** option means "use of Deep Water Routes". If the option is ticked, a route will be plotted through deep water routes where possible.

➢ **The second method** of setting restrictions is adding your own restrictions. Use the following procedure:

1) Press the **Add restriction** button.

2) Using the LEFT mouse button plot a line which must not be crossed during route calculation. The principles of plotting and editing points and lines see in chapter VI.8.1.

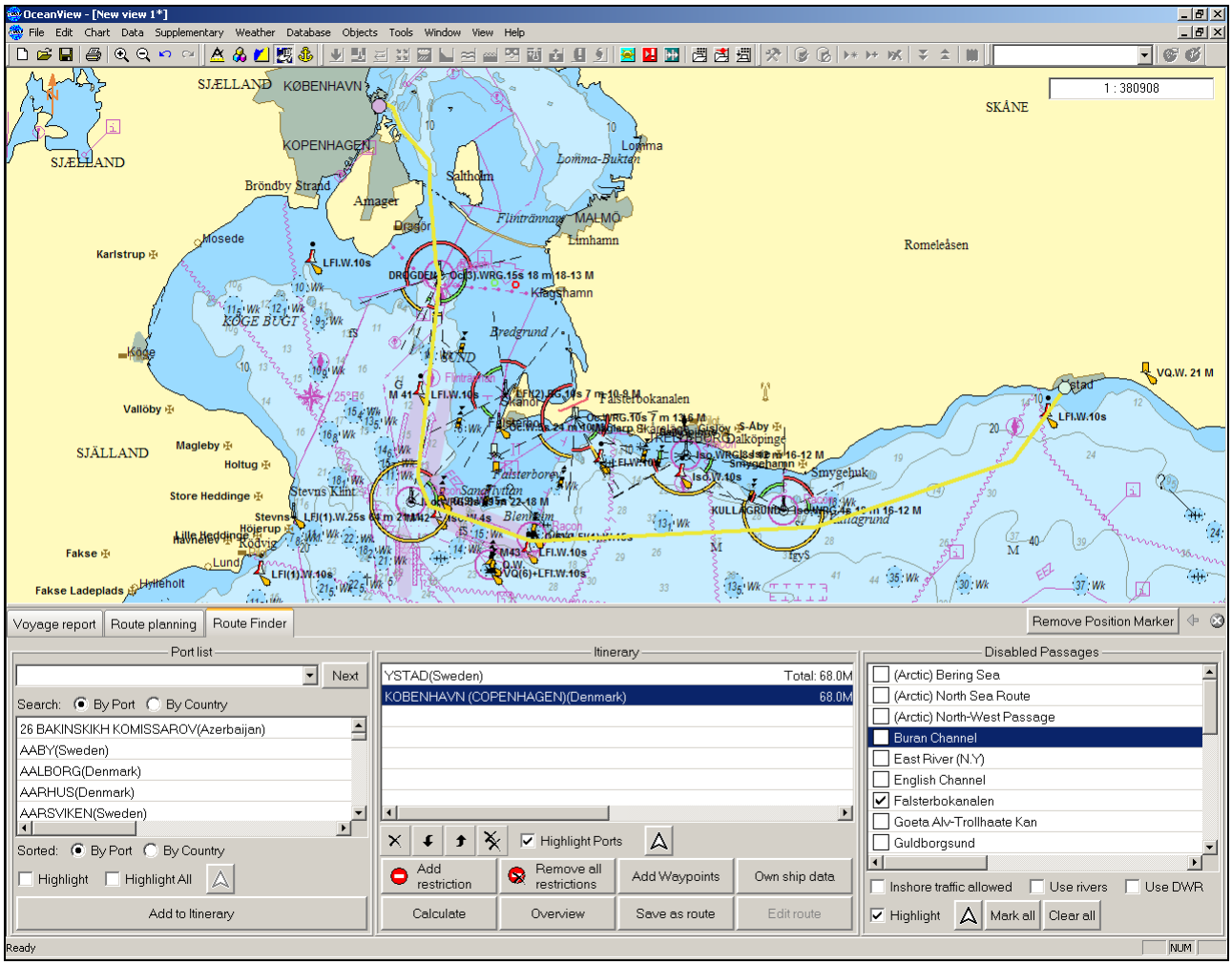


3) Press the **Save restriction** button.

4) Confirm adding a restriction by pressing **Yes**.

You can add as many restrictions as you like. To remove all restrictions, press the **Remove all restrictions** button.

Once you have added all necessary restrictions press the **Calculate** button to recalculate your route.

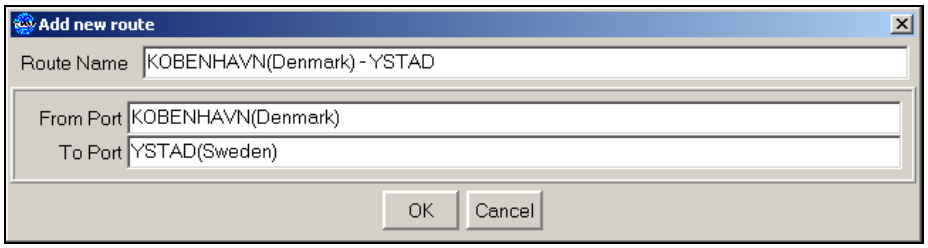


2.7 Saving the Route

After the route is calculated it should be saved for future use. Use the following procedure:

1) Press the **Save as Route** button.

2) The **Add new route** dialog box will appear. Input the Route name if necessary. You can also change initial and final port names of the route.



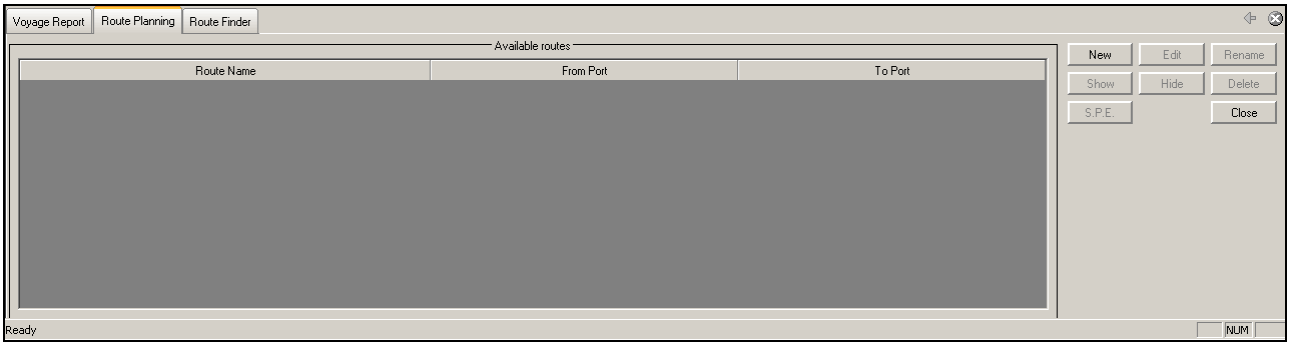
3) Press **OK**.

4) Press the **Edit route** button located on the **Route Finder** panel. The **Route planning** panel will be opened where you can analyze, check, and fix the calculated route (see chapter VII.4.0).

If you are not satisfied with the calculated route, or OceanView™ is unable to calculate the route, switch to the **Route planning** panel and start creating your own route manually (see chapter VII.3.0).

3.0 Manual Route Creation

The **Route Planning** panel consists of the **Available routes** box and seven buttons on the right side. The list of all routes loaded in OceanView™ is shown here. All buttons and principles of working with this list are described in chapter VII.5.1.

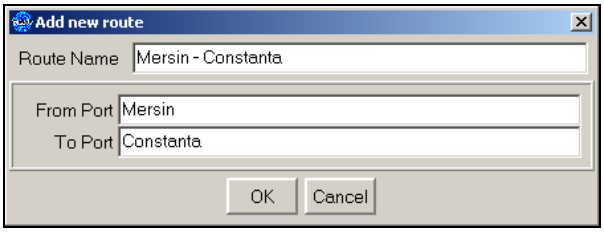


If you have created your route with **Route finder** you may skip this chapter and continue reading from chapter VII.4.0 (Route planning – Edit mode).

To create a route without the automatic Route Finder:

1) Open the **Route planning** panel.

2) Press the **New** button. The **Add new route** dialog box will appear.



3) Input the Route name, and names of the depature and destination ports.

4) Press **OK**.

Remark _____

*You can input any Route Name, but using departure and arrival port names is recommended. Indeed, though port names are presented in the **From Port** and **To Port** fields, in some **Voyage planning** tables and dialog boxes only the route name is presented. The port names which you type here appear in the:*

*1) **Route Planning – Available routes** list*

*2) **Voyage report** (see chapter VII.6.0)*

*3) **Export and Import routes** (see chapter VII.5.2)*

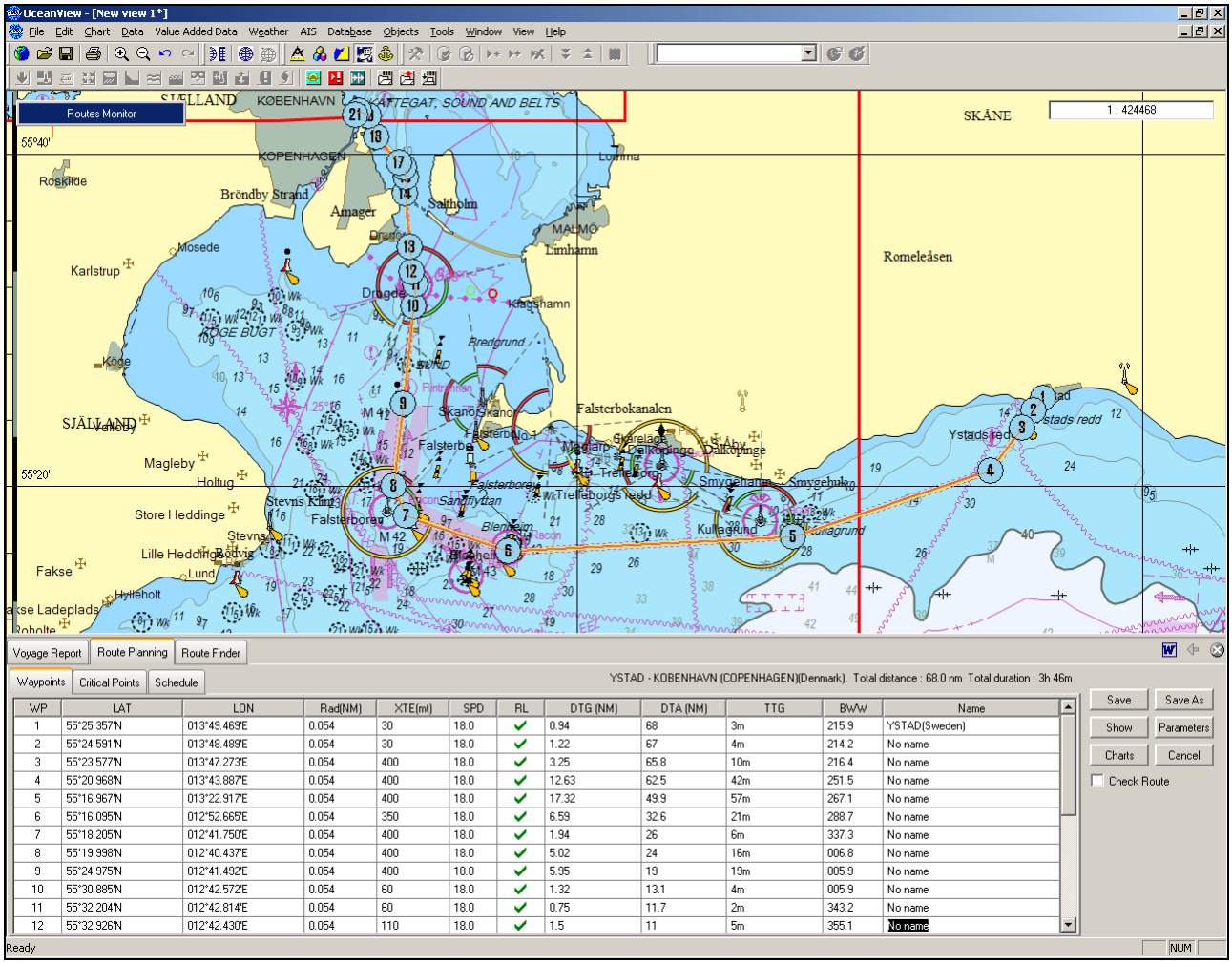
You can change port names any time. In order to do that in the **Available routes** table:

Select the route, press the Rename button, and in the Modify Route Info window you can change route name as well as names of the ports.

4.0 Route Planning: Edit Mode

You can create a route either using **Route finder** (see chapter VII.2.0) or manually (see chapter VII.3.0). After that you should enter the Edit mode in order to plot the route or check it.

When a route is in the edit mode the **Route Planning** panel consists of the **Waypoints**, **Critical points** and **Schedule** panels. Control buttons are located in the right part of the panel and they are different as compared with ordinary **Route Planning** panel. The total route distance and the total voyage duration are calculated automatically and displayed in the top right corner of the panel.



WP	LAT	LON	Rad(NM)	XTE(mt)	SPD	RL	DTG (NM)	DTA (NM)	TTG	BWW	Name
1	55°25.357'N	013°49.469'E	0.054	30	18.0	✓	0.94	68	3m	215.9	YSTAD(Sweden)
2	55°24.591'N	013°48.489'E	0.054	30	18.0	✓	1.22	67	4m	214.2	No name
3	55°23.577'N	013°47.273'E	0.054	400	18.0	✓	3.25	65.8	10m	216.4	No name
4	55°20.968'N	013°43.887'E	0.054	400	18.0	✓	12.63	62.5	42m	251.5	No name
5	55°16.967'N	013°22.917'E	0.054	400	18.0	✓	17.32	49.9	57m	267.1	No name
6	55°16.095'N	012°52.665'E	0.054	350	18.0	✓	6.59	32.6	21m	288.7	No name
7	55°18.205'N	012°41.750'E	0.054	400	18.0	✓	1.94	26	6m	337.3	No name
8	55°19.998'N	012°40.437'E	0.054	400	18.0	✓	5.02	24	16m	006.8	No name
9	55°24.975'N	012°41.492'E	0.054	400	18.0	✓	5.95	19	19m	005.9	No name
10	55°30.885'N	012°42.572'E	0.054	60	18.0	✓	1.32	13.1	4m	005.9	No name
11	55°32.204'N	012°42.814'E	0.054	60	18.0	✓	0.75	11.7	2m	343.2	No name
12	55°32.926'N	012°42.430'E	0.054	110	18.0	✓	1.5	11	5m	355.1	No name

4.1 Plotting Waypoints on the Chart

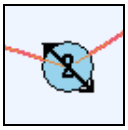
In the Route planning – Edit mode you can plot waypoints directly on chart.

Add waypoint. Click with the LEFT mouse button on the chart. A waypoint will be plotted at the cursor position. It will be displayed as its number (1) in a circle. Move the cursor and a thin red line linking the point and cursor is displayed. It can be useful for checking the leg and second waypoint position ("leg" is a part of a route between two adjacent waypoints). Click with the LEFT mouse button in a new position on the chart. The second waypoint (2) will appear. The next LEFT click will plot the next waypoint and so on.

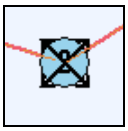
Scrolling and zooming. While you are in the Edit mode any LEFT click plots a new point. In order to scroll the chart window or zoom it with a boundary box, press and hold down the CTRL key. While the CTRL key is held down you can scroll and zoom with a boundary box the same as in an ordinary chart view mode (to zoom out, press and hold down the CTRL and SHIFT keys simultaneously) (see chapters VI.1.0 and VI.2.0).

Insert waypoint before the first one. Move the mouse pointer over the first waypoint. The thin red line will be linked to it instead of the last waypoint. Click with the LEFT mouse button. A new waypoint will be inserted before the first one. In the same way you can move the mouse pointer over the last waypoint and resume adding waypoints from the last one.

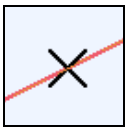
Delete waypoint. In order to delete a waypoint move the mouse pointer over it. The thin red line will disappear and a special symbol will be displayed. Press the RIGHT mouse button to delete the waypoint.



Move waypoint. In order to move a waypoint, move the mouse pointer over it and press the LEFT mouse button. A special symbol will be displayed. Choose the waypoint position and press the LEFT mouse button again. The waypoint will now be moved. Press ESC to cancel the operation.



Insert waypoint between two existing waypoints. In order to insert a waypoint between two existing waypoints move the mouse pointer over the leg between them and a special symbol will be displayed. Press the LEFT mouse button, choose the waypoint position and press the LEFT mouse button again to insert a waypoint. Press ESC to cancel the operation.

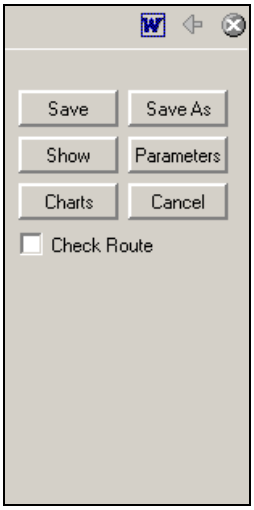


Remark _____

Please note that while you are plotting or checking the waypoints at the same time you can use the ERBL tool (Tools > ERBL, see chapter VI.8.2). Click with the RIGHT mouse button on a land feature to fix the ERBL and move the mouse pointer to the position where you are going to plot a waypoint. The ERBL will display distance and bearing to that land feature.

4.2 Control Buttons

In the Edit mode the following buttons are available:



➢

➢ **Save** button allows saving the edited route. After saving the Edit mode is closed and the standard **Route Planning** panel appears.

➢ **Save as** saves the route with a different name. The **Save route as** window will appear, there you can input another route name. After saving the Edit mode is closed and the standard **Route Planning** panel appears.

➢ **Show** button changes the scale and screen position in order to view the whole route in the chart window.

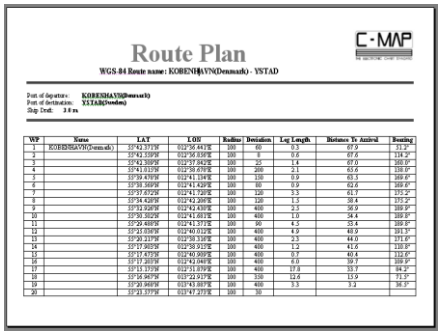
➢ **Parameters** button opens the **Route parameters** dialog. You can change route parameters there. Description of parameters is contained in chapter VII.4.4

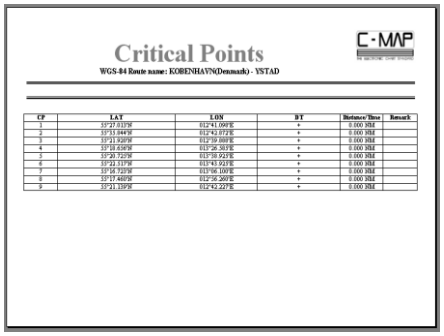
➢ **Charts** button displays boundaries of the charts necessary for the route sailing. This function is described in chapter VII.4.8.

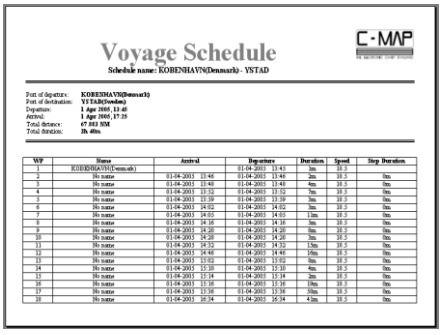
➢ **Check route tool**. When this option is ticked, the Route check is carried out. Dangers found by the check route function form a separate list. Two additional panels are created: Dangers and Cautions. Description of the check route function is contained in chapter VII.4.7.

➢ **Cancel** button allows exiting from the edit mode cancelling all changes made.

➢ **Export Table** function is called with pressing the icon. After pressing the button a table displayed on the Route planning panel (Waypoints, Critical points or Schedule) is exported to MS Word, where it can be printed out.

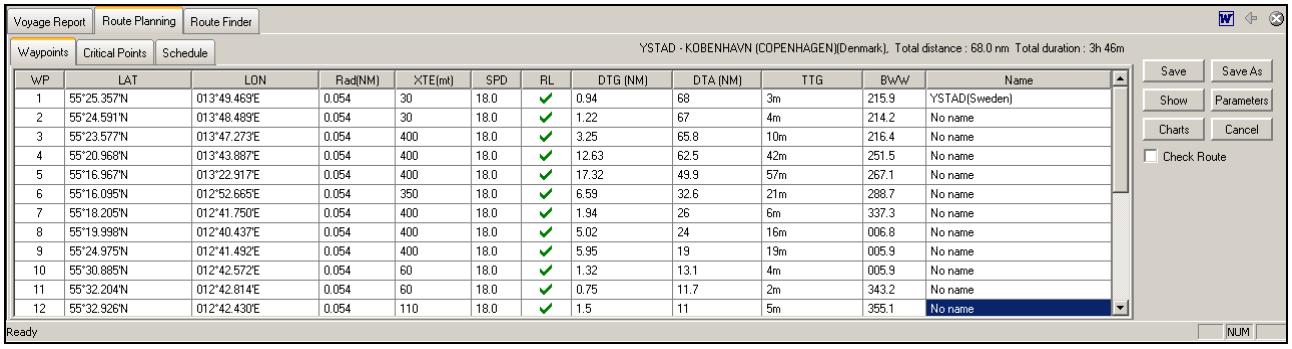

Route Plan


Critical Points


Voyage Schedule

4.3 Waypoints Panel

For each waypoint and each leg the following data are displayed:



WP	LAT	LON	Rad(NM)	XTE(mt)	SPD	RL	DTG (NM)	DTA (NM)	TTG	BWW	Name
1	55°25.357'N	013°49.469'E	0.054	30	18.0	✔	0.94	68	3m	215.9	YSTAD(Sweden)
2	55°24.591'N	013°48.489'E	0.054	30	18.0	✔	1.22	67	4m	214.2	No name
3	55°23.577'N	013°47.273'E	0.054	400	18.0	✔	3.25	65.8	10m	216.4	No name
4	55°20.968'N	013°43.887'E	0.054	400	18.0	✔	12.63	62.5	42m	251.5	No name
5	55°16.967'N	013°22.917'E	0.054	400	18.0	✔	17.32	49.9	57m	267.1	No name
6	55°16.095'N	012°52.665'E	0.054	350	18.0	✔	6.59	32.6	21m	288.7	No name
7	55°18.205'N	012°41.750'E	0.054	400	18.0	✔	1.94	26	6m	337.3	No name
8	55°19.998'N	012°40.437'E	0.054	400	18.0	✔	5.02	24	16m	006.8	No name
9	55°24.975'N	012°41.492'E	0.054	400	18.0	✔	5.95	19	19m	005.9	No name
10	55°30.885'N	012°42.572'E	0.054	60	18.0	✔	1.32	13.1	4m	005.9	No name
11	55°32.204'N	012°42.814'E	0.054	60	18.0	✔	0.75	11.7	2m	343.2	No name
12	55°32.926'N	012°42.430'E	0.054	110	18.0	✔	1.5	11	5m	355.1	No name

➢ **WP** – Waypoint number

➢ **LAT** – Waypoint latitude

➢ **LON** – Waypoint longitude

➢ **Rad(NM)** – Estimated turning radius at the waypoint expressed in nautical miles.

➢ **XTE(m)** – Deviation or Cross Track Error along the leg from this waypoint to the next. It is expressed in meters, to each side of the leg. The deviation is an analogue of accuracy and is used for determining dangers and cautions along the route (see chapter VII.4.7).

➢ **SPD** – Estimated speed on the leg from this waypoint to the next expressed in knots.

➢ **RL** (Rhumb Line) – A choice of whether Rhumb Line (✔) or Great Circle (▬) sailing will be applied from a waypoint to the next one.

➢ **DTG (NM)** (Distance to Go) – Distance from a waypoint to the next one expressed in Nautical Miles. The Distance is calculated automatically and is not editable.

➢ **DTA(NM)** (Distance to Arrival) – Distance from this waypoint to the last one of the route (destination) expressed in Nautical Miles. The distance is calculated automatically.

➢ **TTG** (Time to Go) – Estimated time of sailing from this waypoint to the next one. It is calculated automatically. The time is calculated automatically.

➢ **Name** – The name of a waypoint. You may assign a name to any waypoint.

In order to change any of the above mentioned parameters (except DTG, DTA, and TTG) click with the LEFT mouse button in the chosen cell of the table, type in desired value and press ENTER.

Double click on the waypoint number (or pressing ENTER on the keyboard while that cell is selected) allows scrolling the screen so that the waypoint selected in the list was displayed in the center of the chart window.

Remark _____

Please note, in this table you can enter waypoint coordinates using the keyboard only, without plotting a route in the chart window. This is useful when you input a route plan, which is created and printed out on paper already to OceanView™.

The last row in the table is empty. If you start editing any cell in that empty row, a new waypoint will be added.

Remark _____

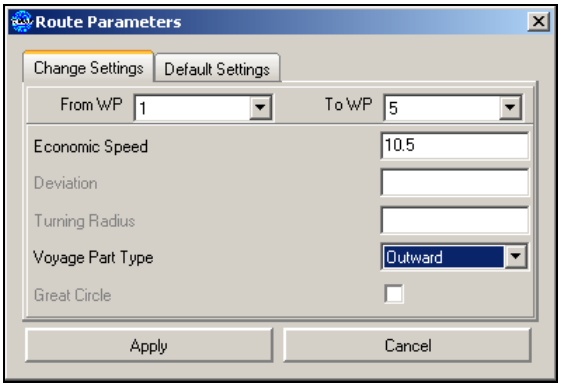
If you do not use the mouse, press ARROW keyboard keys for moving around the table and press any key to start editing.

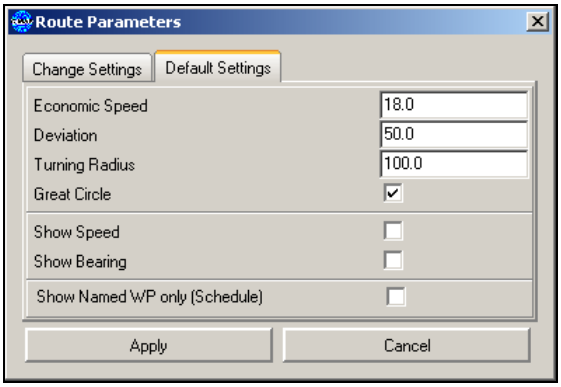
*In order to delete a waypoint using only the keyboard, select any cell (except **LAT**, **LON** and **Name**) in the corresponding row and press the DELETE key.*

4.4 Route Parameters

Before plotting or inputting waypoints, default values of speed, turning radius and cross track error are recommended to be set as these values will be used in the **Waypoints** table for each leg. Accurate values of speed are necessary for the **Schedule** table also (see chapter VII.4.6).

To set or change route parameters, press the **Parameters** button in the Route planning – Edit mode. The **Route parameters** dialog box will appear. It consists of two panels: **Change Settings** and **Default settings**.





On the **Default settings** tab:

➢ **Economic Speed** – speed that is used by OceanView™ for time of sailing between waypoints.

➢ **Deviation –** allowable deviation from the leg during sailing between waypoints.

➢ **Turning radius** – turning radius at a waypoint during altering course.

➢ **Great Circle** – if the option is ticked, all new legs are calculated as Great Circles. Otherwise, all new legs are calculated as Rhumb Lines.

➢ **Show speed**. When this option is ticked, speed is displayed on legs. If one of the leg waypoints is outside of the chart window limits, the speed is shown over the visible waypoint.

➢ **Show bearing**. Like the speed setting, when this option is ticked, courses are displayed on legs.

➢ **Show Named WP only (Schedule)**. When this option is ticked, only waypoints with names are displayed on the **Schedule** panel (see chapter VII.4.6). This allows displaying the most important waypoints only.

On the **Waypoints** panel you can change setting of a single waypoint or corresponding leg. The **Change Settings** tab allows changing settings of several legs simultaneously.

Input to the **From WP** and **To WP** fields numbers of waypoints between which you want to change settings. Then input new values of **Economic Speed**, **Deviation**, **Turning Radius** and **Voyage Part Type** (Mode of Voyage, this field corresponds to the **In port** field of the **Waypoints** panel, see chapter VII.4.3). If you tick the **Great Circle** option, you will assign all legs between corresponding waypoints as Great Circles. To assign all legs between corresponding waypoints as Rhumb Lines, set and remove this tick.

Parameters, for which you have not inputted new values, will not be changed. They are disabled. On the picture above they are Deviation, Turning Radius and Great Circle. Parameters which will be changed are enabled. On the picture above they are Economic Speed and Voyage Part Type.

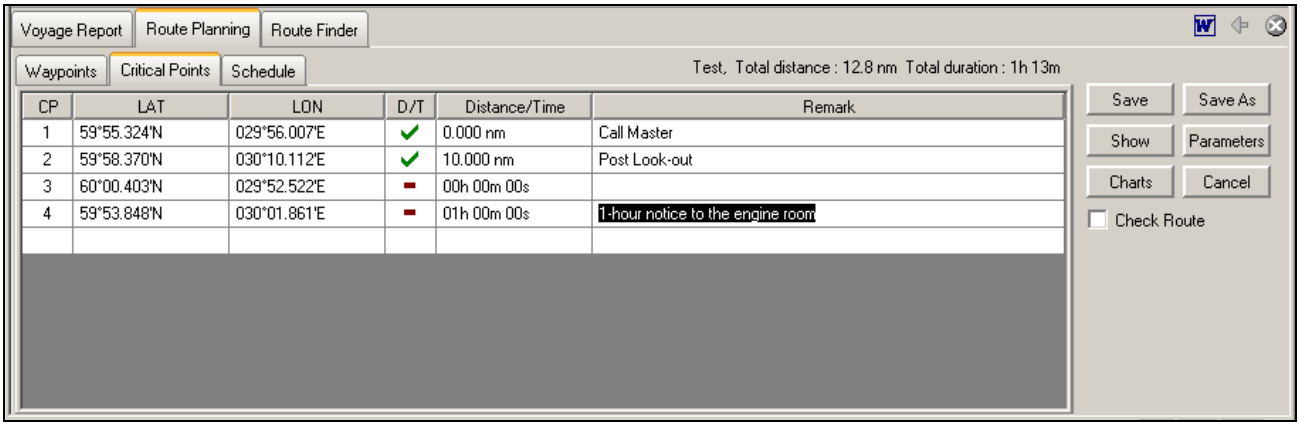
After inputting new values press **Apply**.

4.5 Critical Points Panel

Critical points are supposed to be used by Mariners in ECS/ECDIS. When the vessel approaches a critical point, a system should notify the Mariner with a sound or any other signal that an event is about to occur. For example, a critical point may be plotted at the entrance to a mandatory reporting area, at "Call Pilot" or "1 Hour Notice" positions.

This symbol marks a critical point on the chart.

On the **Critical points** panel the list of all critical points is displayed.



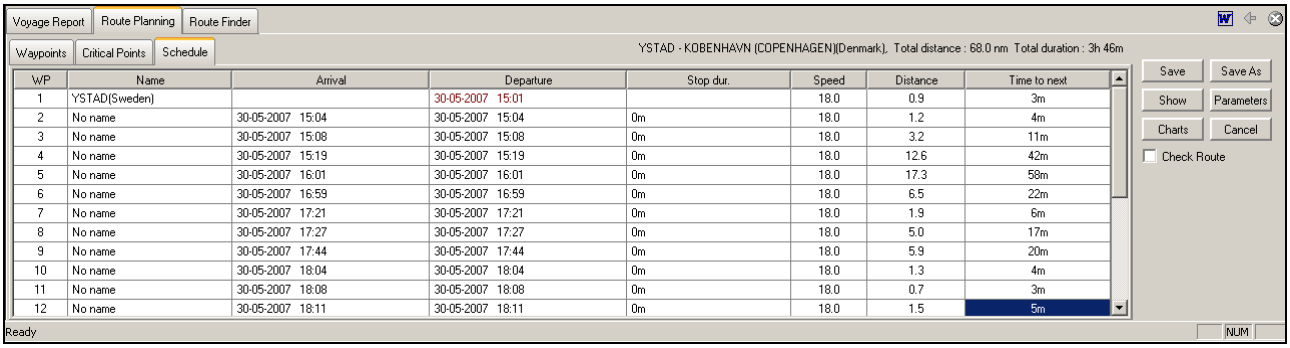
The table consists of the following fields (columns):

- **CP** – Critical point number
- **LAT** – Critical point latitude
- **LON** – Critical point longitude
- **D/T** – There is a possibility to notify the Mariner about a critical point approaching in advance. You can choose whether the system will notify you at some Distance to the critical point or some Time before reaching it. In case of "Time" notification the system calculates distance using current the vessel's speed and assigned time. This field displays your choice. If you have chosen Distance you should put a ✔ sign in the cell and ▬ sign in case of Time notification.
- **Distance/Time** – This field depends on the **D/T** choice. The field contains the value of the Distance or Time where or when the system should notify the Mariner.
- **Remark** – Here you can describe your critical point. The description will be displayed in ECS/ECDIS together with alarm.

Plotting critical points and editing the table is the same as plotting waypoints and editing the waypoints table (see chapter VII.4.3).

4.6 Schedule Panel

The **Schedule** panel contains information about the voyage schedule.



WP	Name	Arrival	Departure	Stop dur.	Speed	Distance	Time to next
1	YSTAD(Sweden)		30-05-2007 15:01		18.0	0.9	3m
2	No name	30-05-2007 15:04	30-05-2007 15:04	0m	18.0	1.2	4m
3	No name	30-05-2007 15:08	30-05-2007 15:08	0m	18.0	3.2	11m
4	No name	30-05-2007 15:19	30-05-2007 15:19	0m	18.0	12.6	42m
5	No name	30-05-2007 16:01	30-05-2007 16:01	0m	18.0	17.3	58m
6	No name	30-05-2007 16:59	30-05-2007 16:59	0m	18.0	6.5	22m
7	No name	30-05-2007 17:21	30-05-2007 17:21	0m	18.0	1.9	6m
8	No name	30-05-2007 17:27	30-05-2007 17:27	0m	18.0	5.0	17m
9	No name	30-05-2007 17:44	30-05-2007 17:44	0m	18.0	5.9	20m
10	No name	30-05-2007 18:04	30-05-2007 18:04	0m	18.0	1.3	4m
11	No name	30-05-2007 18:08	30-05-2007 18:08	0m	18.0	0.7	3m
12	No name	30-05-2007 18:11	30-05-2007 18:11	0m	18.0	1.5	5m

The table consists of the following fields (columns):

- **WP** – Waypoint number. The list of waypoints is copied from the Waypoints table.
- **Name** – The waypoint name.
- **Arrival** – Date and time of arrival to the waypoint.
- **Departure** – Date and time of departure from the waypoint.
- **Stop dur.** – Stop duration at the waypoint. It can be applied for waypoints representing pilot stations and ports, in OceanView™ a route can include a number of intermediate ports of call.
- **Speed** – Estimated speed in knots on the leg from this waypoint to the next. It is copied from the Waypoints table and is not editable.

➢ **Distance** – The leg distance from the waypoint to the next one expressed in Nautical Miles. The Distance is copied from the Waypoints table.

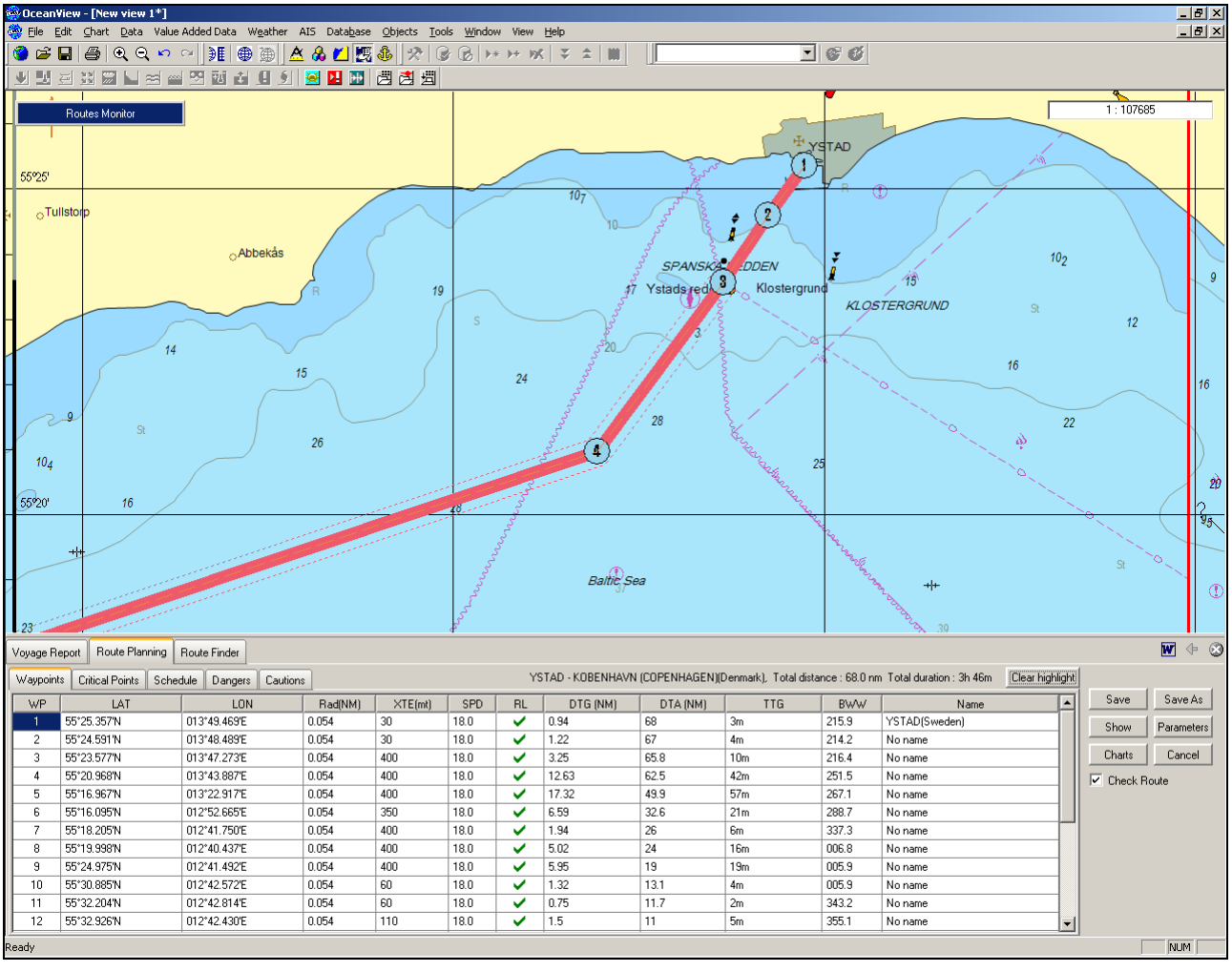
➢ **Time to Next** – Time to the next waypoint.

4.7 Check Route Tool

The Check Route function is started when you tick the **Check Route** option in the right part of the **Route planning** panel.

The function checks the whole route leg by leg and writes down lists of dangers and cautions that it finds. It creates two additional panels inside the **Route Planning** panel: the **Dangers** and **Cautions** panels. It also marks all legs. The marking scheme is the following:

- **Blue bold line** – The leg has not been checked yet.
- **Red bold line** – Dangers have been found along the leg.
- **Yellow bold line** – The leg is a rhumb line with the length more than 195 Miles and the function cannot check it.
- **Red thin line** – No dangers have been found along the leg.



WP	LAT	LON	Rad(NM)	XTE(mt)	SPD	RL	DTG (NM)	DTA (NM)	TTG	BWW	Name
1	55°25.357'N	013°49.469'E	0.054	30	18.0	✓	0.94	68	3m	215.9	YSTAD(Sweden)
2	55°24.591'N	013°48.489'E	0.054	30	18.0	✓	1.22	67	4m	214.2	No name
3	55°23.577'N	013°47.273'E	0.054	400	18.0	✓	3.25	65.8	10m	216.4	No name
4	55°20.968'N	013°43.887'E	0.054	400	18.0	✓	12.63	62.5	42m	251.5	No name
5	55°16.967'N	013°22.917'E	0.054	400	18.0	✓	17.32	49.9	57m	267.1	No name
6	55°16.095'N	012°52.665'E	0.054	350	18.0	✓	6.59	32.6	21m	288.7	No name
7	55°18.205'N	012°41.750'E	0.054	400	18.0	✓	1.94	26	6m	337.3	No name
8	55°19.998'N	012°40.437'E	0.054	400	18.0	✓	5.02	24	16m	006.8	No name
9	55°24.975'N	012°41.492'E	0.054	400	18.0	✓	5.95	19	19m	005.9	No name
10	55°30.885'N	012°42.572'E	0.054	60	18.0	✓	1.32	13.1	4m	005.9	No name
11	55°32.204'N	012°42.814'E	0.054	60	18.0	✓	0.75	11.7	2m	343.2	No name
12	55°32.926'N	012°42.430'E	0.054	110	18.0	✓	1.5	11	5m	355.1	No name

Cautions do not affect this highlighting. The **Dangers** and **Cautions** panels are organized exactly like the **Object info** panel (see chapter VI.5.0).

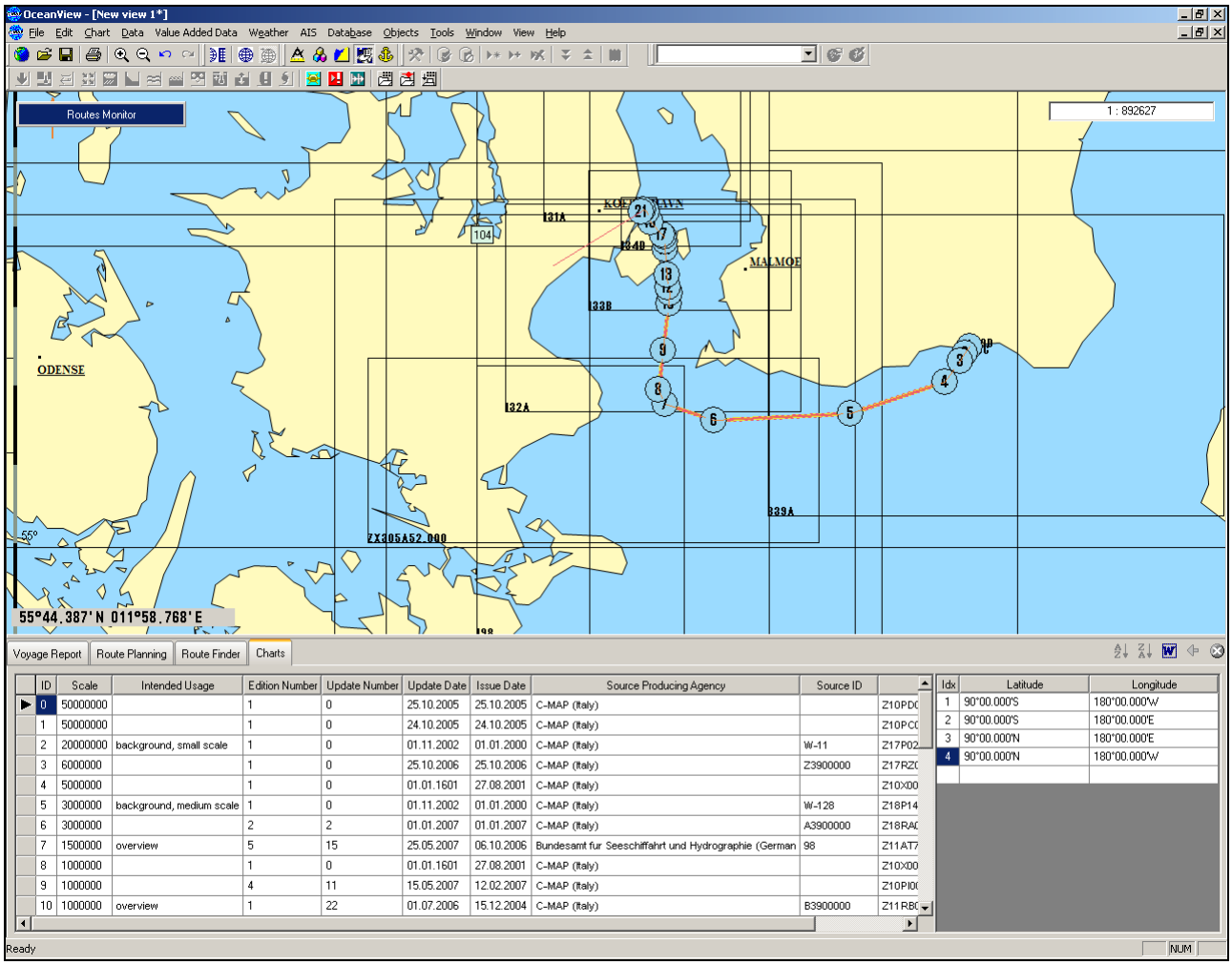
The check route function uses the XTE (cross track error) parameter (see chapter VII.4.3). It is an analogue of accuracy or allowable deviation from the leg. OceanView™ draws a special Deviation band with dotted lines. Width of the band is equal to double XTE parameter value.

All dangerous objects covered by the Deviation band are being added to the **Dangers** list. Situation is similar with Caution objects. The **Cautions** list includes objects, which are not considered by OceanView™ as dangerous, but which require navigator's attention.

Depth contours and depth areas are classified as dangerous if they limit or include depths less than the value of Safety contour that is set in the **Chart > Customize > Settings** dialog box (see chapter X.2.0). Please note, the more Safety contour and Deviation values, the greater the number of dangers that you will get in the list. "Too safe" values cause too long lists, which are difficult for manual analysis.

4.8 Charts

When you press the **Charts** button located in the right part of the **Route planning** panel, all charts in the limits of which the route is plotted are displayed in the chart window and listed in the created **Charts** panel.

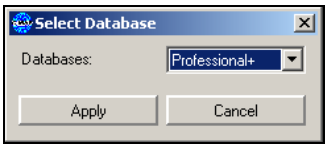


ID	Scale	Intended Usage	Edition Number	Update Number	Update Date	Issue Date	Source Producing Agency	Source ID
0	50000000		1	0	25.10.2005	25.10.2005	C-MAP (Italy)	
1	50000000		1	0	24.10.2005	24.10.2005	C-MAP (Italy)	
2	20000000	background, small scale	1	0	01.11.2002	01.01.2000	C-MAP (Italy)	W-11
3	6000000		1	0	25.10.2006	25.10.2006	C-MAP (Italy)	Z3900000
4	5000000		1	0	01.01.1601	27.08.2001	C-MAP (Italy)	
5	3000000	background, medium scale	1	0	01.11.2002	01.01.2000	C-MAP (Italy)	W-128
6	3000000		2	2	01.01.2007	01.01.2007	C-MAP (Italy)	A3900000
7	1500000	overview	5	15	25.05.2007	06.10.2006	Bundesamt fur Seeschiffahrt und Hydrographie (German	98
8	1000000		1	0	01.01.1601	27.08.2001	C-MAP (Italy)	
9	1000000		4	11	15.05.2007	12.02.2007	C-MAP (Italy)	
10	1000000	overview	1	22	01.07.2006	15.12.2004	C-MAP (Italy)	B3900000

Idx	Latitude	Longitude
1	90°00.000'S	180°00.000'W
2	90°00.000'S	180°00.000'E
3	90°00.000'N	180°00.000'E
4	90°00.000'N	180°00.000'W

Remark _____

*If there are several databases currently in the view (see chapter V.1.0), before appearing of the **Charts** panel, a special **Select Database** window will appear.*



*Select the database containing navigation charts used for route planning and press **Apply**. The **Cancel** button allows cancelling displaying of the charts list.*

In the chart window electronic chart boundaries and their names are displayed. If you move the mouse pointer to a chart border, the chart name will be displayed as a tooltip.

In the **Charts** table you can see some additional Chart information, such as Scale, Edition Number, Issue Date, etc.

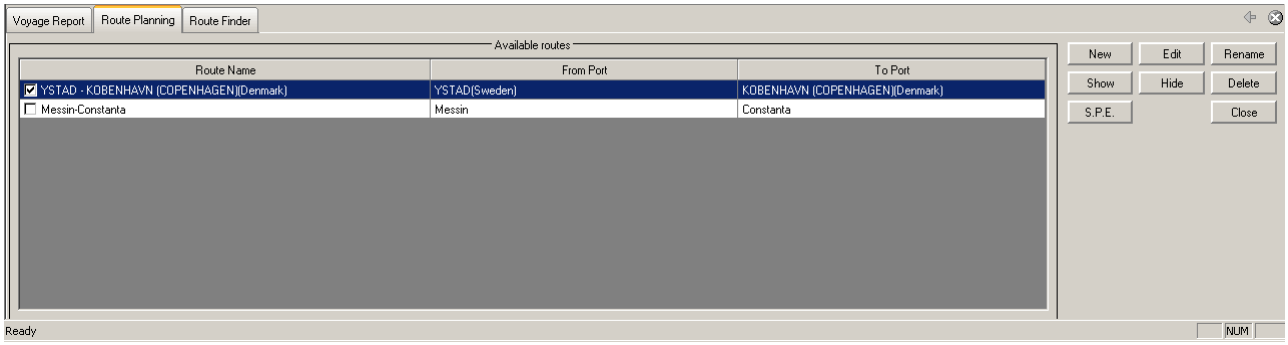
If you click on the chart border with the LEFT mouse button, this chart is selected in the table. Double click on any field of the chart in the table and the chart will be highlighted in the chart window.

You can sort charts in the table. Select the field that you want to use as a criterion for chart sorting. Press the (Ascending order) or (Descending order) button located in the top right corner of the **Charts** panel. The charts will be sorted appropriately.

5.0 Routes Management

5.1 Work with Several Routes

After completing the route creation, checking it and pressing the **Save**, **Save as** or **Cancel** buttons, you exit from the Route Planning – Edit mode. The ordinary **Route Planning** panel appears. It consists of the list of available routes and control buttons in the right part.



Available routes are the routes created manually (see chapter VII.3.0) or automatically (see chapter VII.2.0) as well as imported routes (see chapter VII.5.2). **Route name**, Port of departure (**From Port**) and Port of destination (**To Port**) are displayed in the list.

With a LEFT mouse click you can select any route. While holding down CTRL key you select all routes you click and with the SHIFT key you select all routes in the list between two last clicked.

Control buttons are the following:

- **New** – A new route will be created.
- **Edit** – Start editing a selected route. You can edit only one route at a time.

➢ **Rename** – The **Modify route info** window appears, where you can change route, port of departure and port of destination names. You can rename only one route at a time.

➢ **Show** – The route will be shown in the chart window. The screen will be scrolled and the chart scale arranged so that the whole selected route was displayed on the screen.

➢ **Hide –** The route will not be displayed in the chart window.

➢ **Delete** – The route will be deleted.

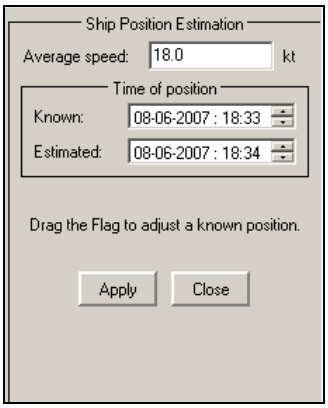
➢ **Close** – The Voyage planning panels will be closed. You have a possibility to close the panels by releasing the button on the Toolbar or by pressing the button on any of the Voyage planning panels (**Route finder**, **Route planning**, or **Voyage report**).

Remark _____

*Pressing the **Close** button does not hide displayed routes in the chart window. Only Voyage planning panels are closed. Management of displayed routes after panels closing can be carried out using the **Route monitor** panel (see below).*

➢ **S.P.E.** (Ship Position Estimation) – Press the button to open the **Ship Position Estimation** panel. There you estimate the position of a vessel on the route where the vessel will get from a specified point in a specified period of time. The function is implemented to give the possibility to estimate the current position of a vessel relative to its last reported position in case of the communication blackout. To estimate a vessel position:

1) Press the **S.P.E.** button, the **Ship Position Estimation** panel will open.



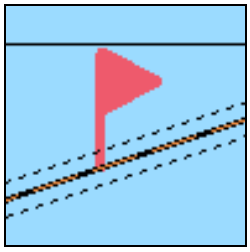
2) Enter the average speed of the vessel to the **Average speed** field.

3) Enter the last report time value to the **Known** field in the **Time of position** section.

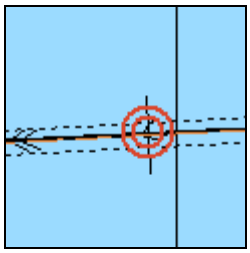
4) Enter the time at which you want to estimate the position of the vessel to the **Estimated** field in the **Time of position** section.

5) Press **Apply** to apply the specified position estimation settings.

6) The vessel is displayed in the starting point of the route. The last reported position of the vessel is marked with a red flag.



7) Estimated position of the vessel is displayed as a designated symbol.

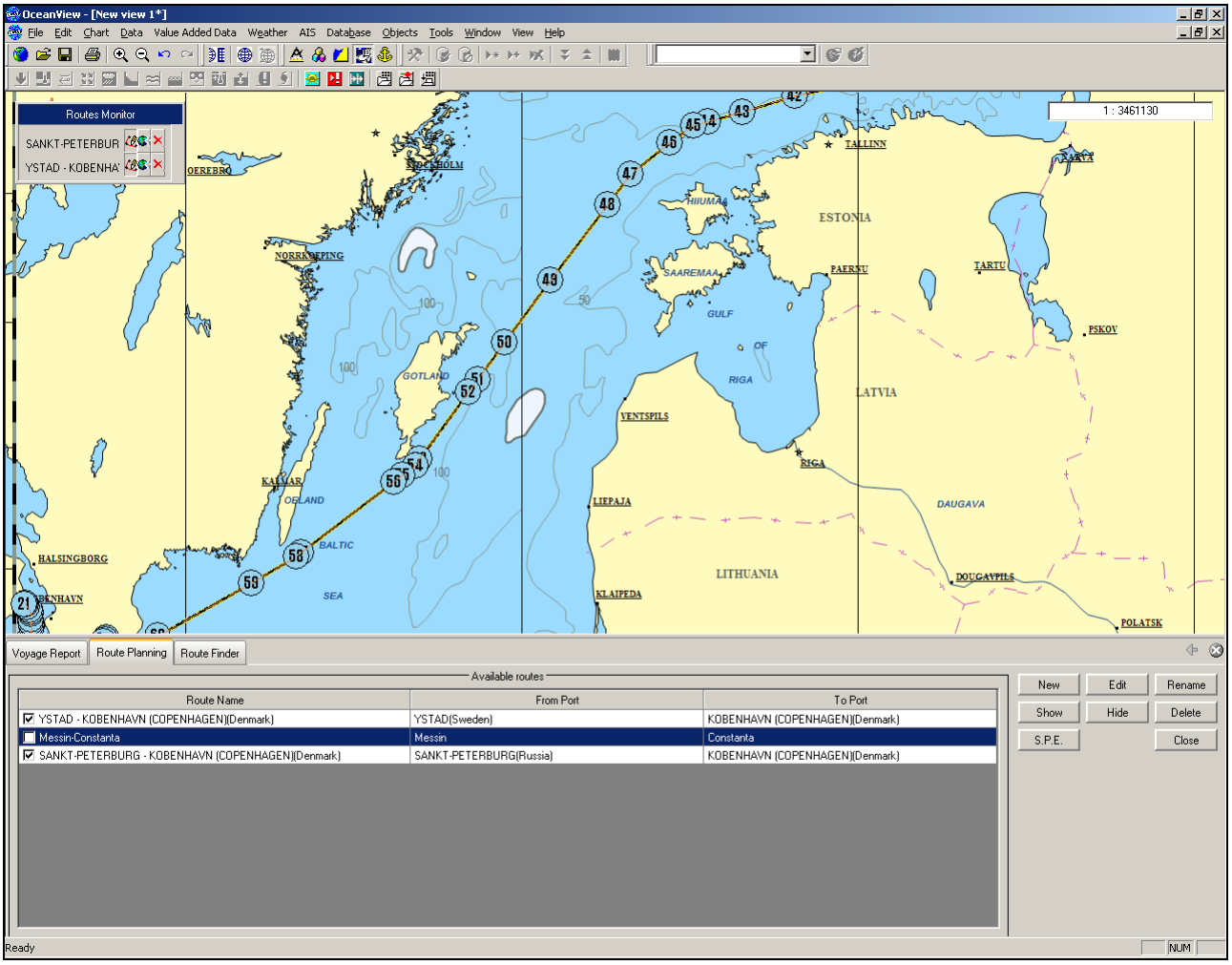


8) You can move the last reported position symbol (flag) with the mouse (hold the left mouse button and move the mouse), and the estimated position symbol will move accordingly.

9) To exit the function, press **Close**.

To the left from a route name in the **Available routes** list a checkbox is located. Ticking a checkbox is equal to pressing the **Show** button, and clearing the box is equal to pressing the **Hide** button. The only difference is that using the checkboxes does not affect the scale and the position of the chart window. On the contrary, pressing the **Show** button causes setting a tick in the checkbox, and pressing the **Hide** button causes clearing the checkbox.

In the top left corner of the chart window a special panel called **Routes monitor** is displayed if at least one of the routes is checked in the **Available routes** list. Move the mouse pointer over it and a list of all displayed routes will appear.



On the picture above you can see two loaded routes in the **Routes monitor** box. They are ticked also in the **Available routes** list and they are displayed in the chart window.

Route monitor also allows management of loaded routes. Three buttons are provided for this purpose:

(Hide). After pressing this button the route will be hidden. It is equal to the **Hide** button located on the **Route planning** panel.

(Show). After pressing this button the route will be displayed in the chart window. It is equal to **Show** button located on the **Route planning** panel. Also the screen will be scrolled and chart scale arranged so that the route selected will be to display the whole route on the screen. Therefore this button may be useful when the route is shown already but is outside of the chart window.

(Toggle view). This is a unique feature of **Route monitor**. Releasing this button the route will be hidden, as well as after pressing the **Hide** button, but it will not be unloaded from the memory. Therefore further pressing this button will display the route quicker then hiding and showing the route using ordinary way. This feature is useful during work with routes containing a lot of waypoints.

In the edit route mode the buttons and are disabled.

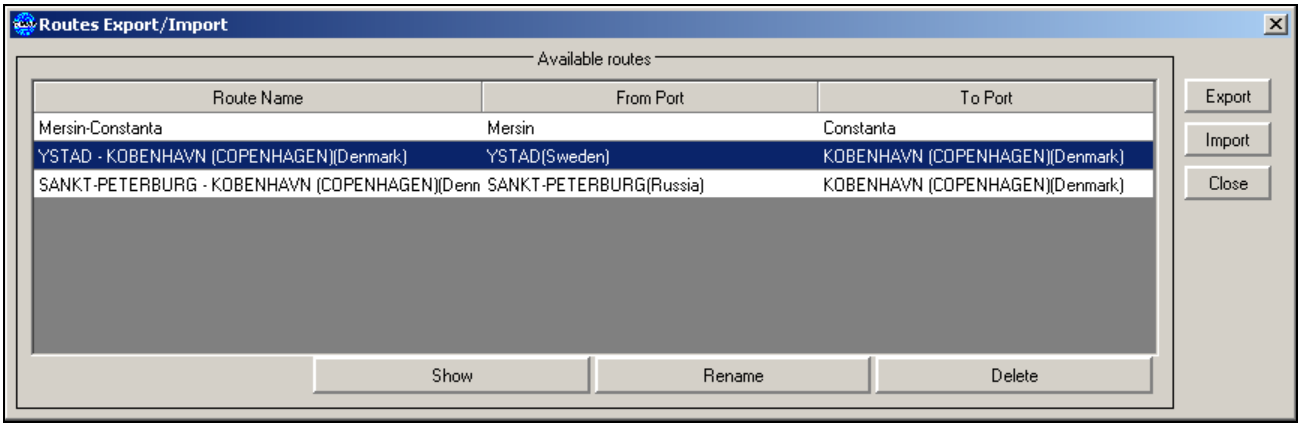
5.2 Routes Export and Import

Routes export and import can be carried out in one of the formats below depending on future use. The table contains formats comparison and brief information about data, being saved in the formats supported.

File format	C-Map, Route	C-Map PC-Planner, Waypoints	C-Map PC-Planner, Route	C-Map PC-Planner, Track	Sperry, Voyage plan	Furuno, Route plan	Telko, Route plan
File extension	*.route	*.UP.xml	*.RT.xml	*.TRK.xml	*.vp	*.txt	*.lst
Saving several routes in single file	Yes	Yes	Yes	Yes	No	No	No
Route name	Yes	No	Yes	No	Yes	No	Yes
Waypoint names	Yes	Yes	Yes	No	Yes	Yes	No
Waypoints latitude and longitude	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Speed on route leg	Yes	No	Yes	No	Yes	No	Yes
Turning radius, XTE	Yes	No	No	No	Yes	No	Yes
Time of departure	Yes	No	No	No	Yes	No	No
Critical points	Yes	No	No	No	No	No	No

➢ **In order to export routes**:

1) Go to the **Tools > Export & Import > Routes** menu command. The **Routes Export/Import** window will appear.

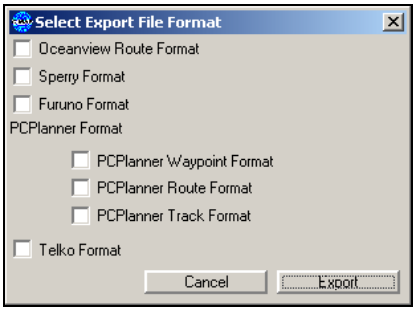


2) Select the route you want to export.

Remark

Using CTRL and SHIFT keyboard keys you can select several routes. All selected routes will be saved in a single file (if this feature is supported by file format, see the table above).

3) Press the **Export** button. The Select Export File Format window will open. There you can select the format for the route export file.



4) A standard MS Windows **Save as** dialog will appear. OceanView™ will offer to save the file in a folder, defined in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0). You can assign different folder if necessary.

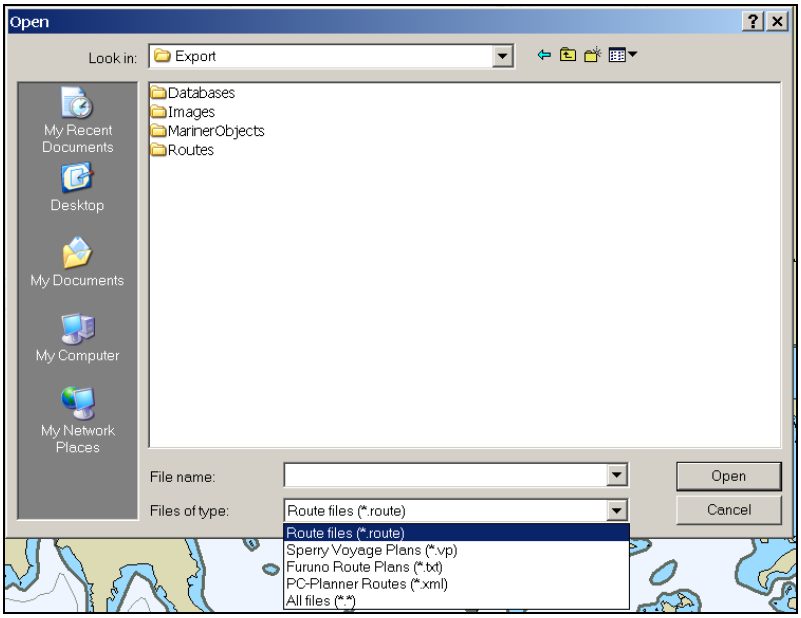
5) Input the file name in the **File name** field. If you input a name of existing file containing exported routes, selected routes will be added to existing file (if this feature is supported by file format, see the table above).

6) Pres **Save**. The route will be saved on the disk in a specified format.

➢ **In order to import routes**:

1) Select **Tools > Export & Import > Routes** menu command. The **Routes Export/Import** window will appear.

2) Press the **Import** button. A standard MS Windows **Open** dialog will appear. OceanView™ will offer to open a file located in a folder, defined in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0). You can assign a different folder if necessary.



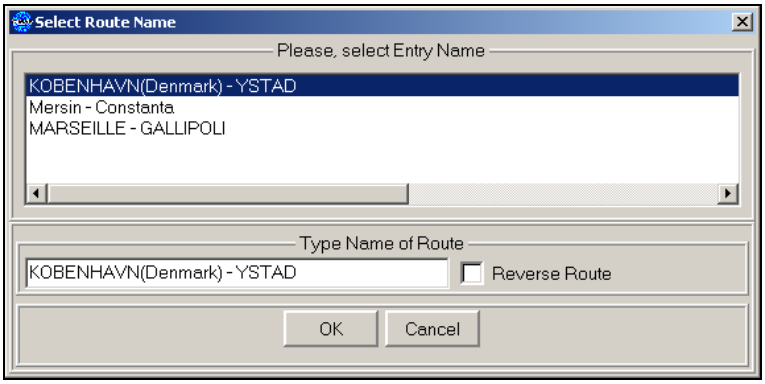
3) Select an imported file format in the **Files of type** drop-down list.

4) Select the required file and press **Open**.

In common case the required route will be imported to OceanView™ after this procedure and will appear in the **Available routes** list of the **Route Planning** panel. However, to import a route saved in the C-Map format (*.route files) you have to perform additional operations.

➢ **Additionally for files in the C-Map format (*.route files)**:

1) **Select Route Name** dialog window will appear.



2) Select the route you want to import if the file contains more than one route.

3) Input the new route name if necessary.

4) Tick the **Reverse Route** option if you want to get the opposite route direction. But be careful using this function as usually the opposite route is different than the initial one due to Traffic Separation Schemes, etc.

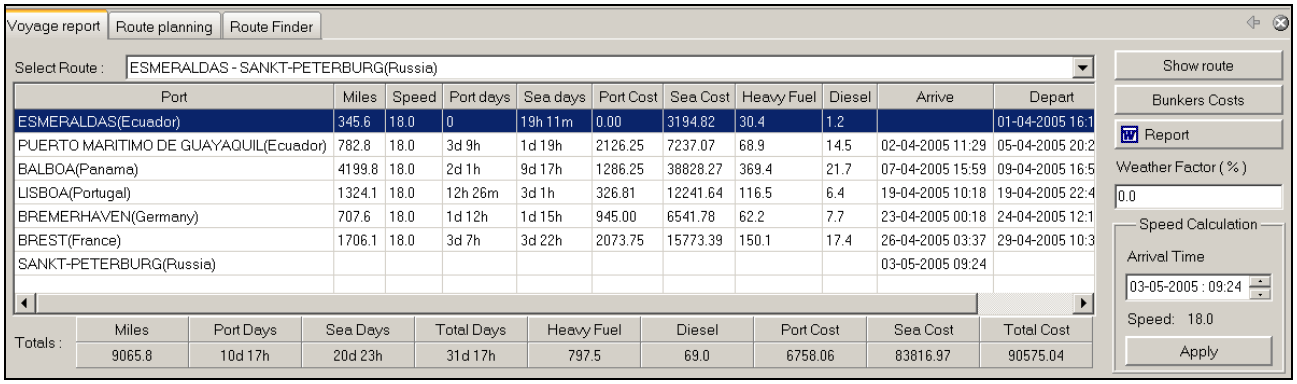
5) Press **OK**. The route will be imported and will appear in the **Available routes** list of the **Route planning** panel.

Remark _____

*In the **Routes Export/Import** window you have a possibility to Show, Rename and Delete the selected route. These functions are the same as on the **Route planning** panel (see chapter VII.5.1).*

6.0 Voyage Report

Switch to the **Voyage report** panel to get the final figures related to the planned voyage.



Port	Miles	Speed	Port days	Sea days	Port Cost	Sea Cost	Heavy Fuel	Diesel	Arrive	Depart
ESMERALDAS(Ecuador)	345.6	18.0	0	19h 11m	0.00	3194.82	30.4	1.2		01-04-2005 16:1
PUERTO MARITIMO DE GUAYAQUIL(Ecuador)	782.8	18.0	3d 9h	1d 19h	2126.25	7237.07	68.9	14.5	02-04-2005 11:29	05-04-2005 20:2
BALBOA(Panama)	4199.8	18.0	2d 1h	9d 17h	1286.25	38828.27	369.4	21.7	07-04-2005 15:59	09-04-2005 16:5
LISBOA(Portugal)	1324.1	18.0	12h 26m	3d 1h	326.81	12241.64	116.5	6.4	19-04-2005 10:18	19-04-2005 22:4
BREMERHAVEN(Germany)	707.6	18.0	1d 12h	1d 15h	945.00	6541.78	62.2	7.7	23-04-2005 00:18	24-04-2005 12:1
BREST(France)	1706.1	18.0	3d 7h	3d 22h	2073.75	15773.39	150.1	17.4	26-04-2005 03:37	29-04-2005 10:3
SANKT-PETERBURG(Russia)									03-05-2005 09:24	

Miles	Port Days	Sea Days	Total Days	Heavy Fuel	Diesel	Port Cost	Sea Cost	Total Cost
9065.8	10d 17h	20d 23h	31d 17h	797.5	69.0	6758.06	83816.97	90575.04

1) In the drop-down **Select Route** list select the voyage you are interested in.

2) Press the **Bunker/Costs** button and in the **Ship properties** window (see chapter VII.2.1) input the bunker figures.

3) Input the **Weather Factor (%)**. This represents not only fuel reserves but also loss of time due to heavy weather. The speed will be decreased by that value. For example, if the initial speed is 20 knots and you set **Weather Factor** as 10%, the resulting speed in the **Voyage report** table will be 18.2 knots (18.2 + 10% = 20 knots). All the values based on speed will be changed accordingly.

4) All other values in the table are taken from other tables or calculated automatically.

In the **Port** field only Ports and waypoints where you supposedly stop the engine are displayed. All other waypoints are hidden.

The voyage summary is shown at the bottom of the table.

5) Press the **Print report** button to export the Voyage report to MS Word where it can be printed out.

The exported Voyage report contains considerably more information than you can see in the table.

Position and distance checklist. Ship: _____

Passage from: ESMERALDAS(Ecuador) to: SANKT-PETERBURG(Russia)

WP	Name:	Latitude	Longitude	GC/RL	course	distance	to go	GPS
1	ESMERALDAS(Ecuador)	00°59.484'N	079°38.929'W	RL	70.7°	0.5	9065.8	
2		00°59.657'N	079°38.436'W	RL	347.9°	2.0	9065.3	
3		01°01.621'N	079°38.858'W	RL	333.6°	1.8	9063.3	
4		01°03.226'N	079°39.654'W	RL	288.9°	16.1	9061.5	
5		01°08.478'N	079°54.903'W	RL	256.3°	4.8	9045.4	
6		01°07.332'N	079°59.583'W	GC	207.1°	121.3	9040.5	
7		00°41.174'S	080°54.795'W	RL	189.4°	22.6	8919.2	
8		01°03.572'S	080°58.478'W	RL	181.9°	46.3	8896.6	
9		01°50.108'S	081°00.008'W	RL	189.8°	21.4	8850.3	
10		02°11.301'S	081°03.642'W	RL	176.9°	14.8	8828.9	

There are also many blank fields where you may enter your own information.

Books and publications needed.

List of radiosignals

_____

_____

_____

_____

List of Lights + tidal info

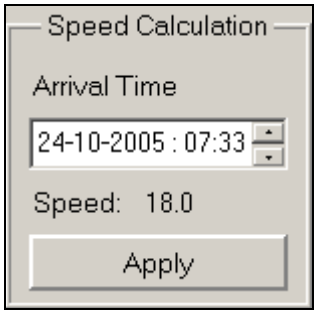
_____

_____

_____

_____

6) On the **Voyage report** panel there is a possibility to calculate the average speed in order to reach the last port of voyage at a specified time. The **Speed Calculation** box is designed for this purpose. By default Arrival Time to the last port of voyage copied from the **Schedule** panel (see chapter VII.4.6) and average speed along the route are displayed in the box. If you change **Arrival Time** by means of arrow buttons or keyboard, displayed **Speed** will be recalculated. In order to display the recalculated speed in the Voyage report and use it in the voyage calculations, press the **Apply** button and confirm your intentions.



Remark _____

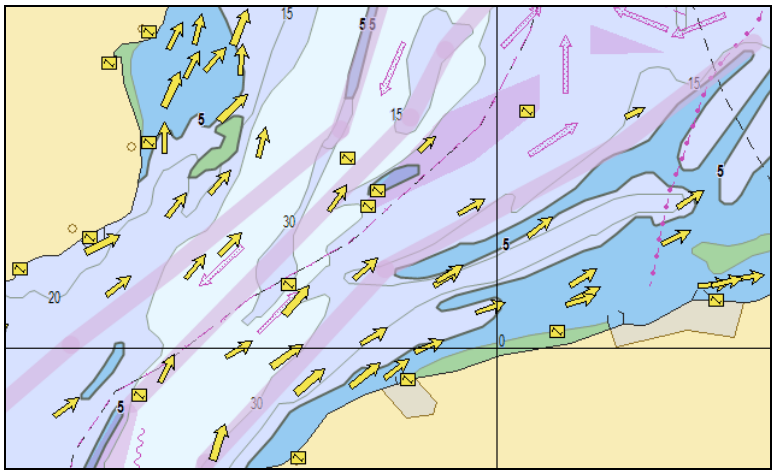
*The calculated average Voyage speed is not saved and its alteration does not cause speed changes on route legs displayed on the **Schedule** panel. Moreover, this speed is lost when you close the Voyage report panel or select a different voyage.*

7.0 Tidal Predictions

To access tidal information, press the button or selecting the **Tools > Tides** menu command. Three panels will be opened: **Tides**, **Streams** and **Astro Calculator**.

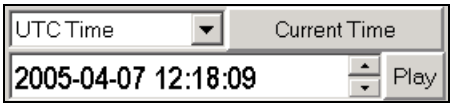
The

option on the **Tides** or **Streams** panels allows showing or hiding information on the chart. If it is ticked and the chart scale is more than 1:5 000 000, special yellow symbols (tidal prediction points) and (tidal stream prediction points) are displayed on the map.



If you move the cursor over tide or tidal stream symbols, tooltips might appear. The tooltips for tides display Location Name, Height and Time (UTC). The tooltips for tidal streams display the stream Speed. In order to see the tooltips, the chart scale must be more than 1:100 000. Also, special settings must be switched on the **Chart > Customize > Presentation** panel. Tick the **Tides Info** option; and for displaying tidal prediction point name tick additionally the **Text (other)** option.

Element of time operating is located on the **Tides, Streams** and **Astro Calculator** panels.



Using this element you can:

- Select the time system (UTC or Local Time), which is displayed in the date-time box (Local Time = UTC – Time Zone)

- Set time and date for which tides and tidal streams are calculated (use the keyboard or arrow keys).

- Set the Current Time with pressing the **Current Time** button. When the button is pressed, the current time is displayed in the date-time box, you cannot edit the value.

- Automatically increase time in date-time box every 10 minutes which allows animating the display of tidal and streaming data on the map (by pressing the button **Play** located only on **Tides** and **Streams** panels).

Results of tide and tidal stream calculations can be displayed in UTC or in Local Time, depending on selection in the following drop-down list:

7.1 Tides

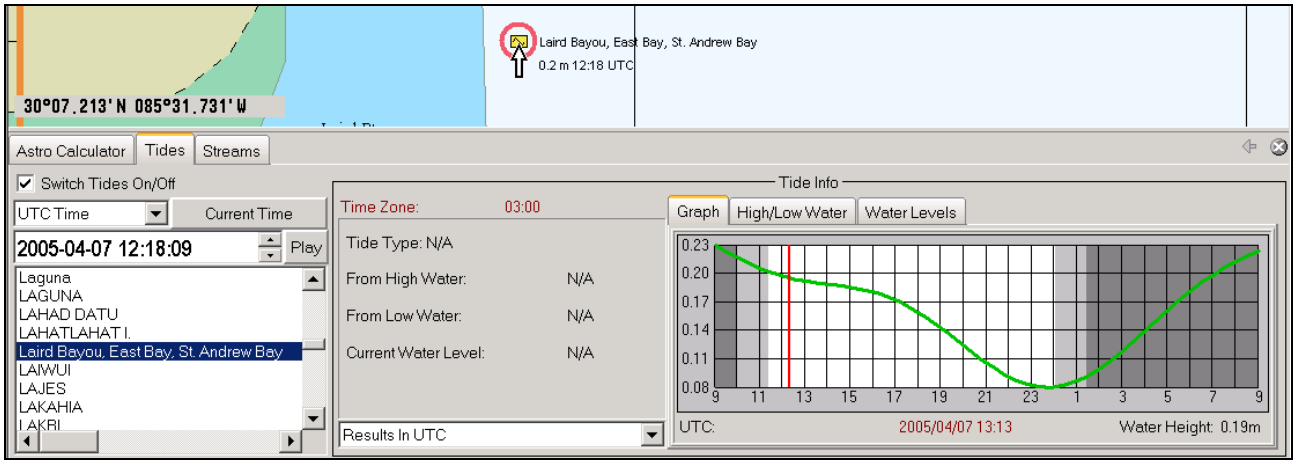
When you click with the right mouse button on any symbol of tide on the map, the corresponding tide is found in the list of tides on the **Tides** panel. And vice versa, you can find the corresponding tide highlighted on the map if you click with the left mouse button on the tide from the list.

General information related to the selected tide and input time is shown in the center of the panel:

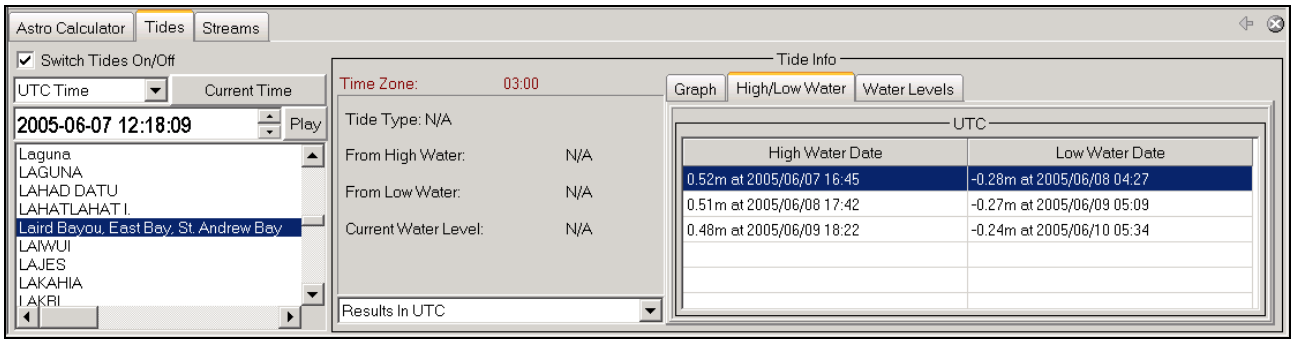
- **Time Zone –** Time difference between the standard (local) time of the tide location and UTC.
- **Tide Type –** Can be Diurnal, Mixed Diurnal, Mixed Semi-Diurnal and Semi-Diurnal.
- **From High Water** – It relates to the latest High water event.
- **From Low Water** – It relates to the latest Low water event.
- **Current Water Level –** Shows the water level of Tidal object, related to the time, described in the input time field.

Detailed information about the tide location is represented in the **Graph**, **High/Low Water** and **Water Levels** tabs:

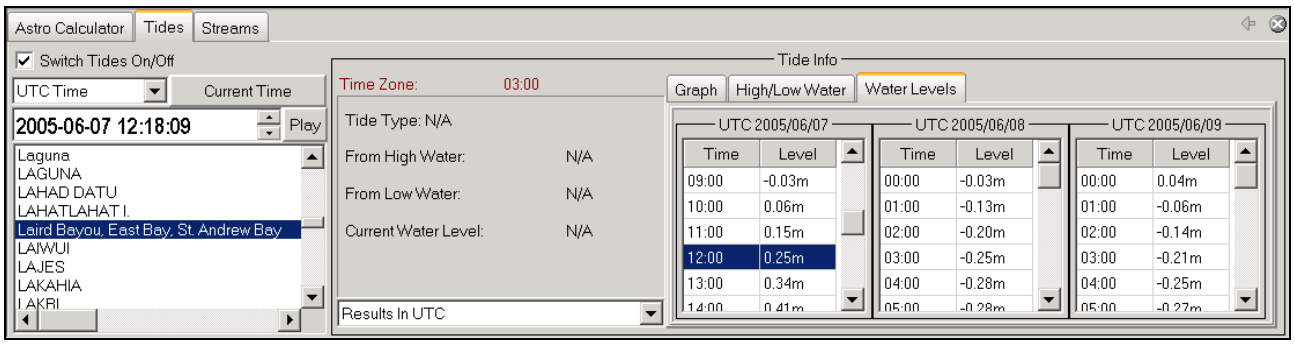
➢ **Graph –** Tidal height (in meters) depending on the Time is graphically expressed on the diagram. The diagram background consists of three color zones. The zones graphically show night time (dark grey), twilights (light grey) and daytime (white). The red vertical line on the graph marks the time entered in the date-time edit box. In addition there is a very useful feature within the diagram. When you move the mouse pointer over the diagram area the time and the corresponding tidal heights are shown below allowing you to obtain detailed tidal information.



➢ **High/Low Water –** Summary information about the time and height of high and low water is given.



➢ **Water Levels –** Provides the information about water level height predictions for next three days, starting with the current day. The step of such predictions is one hour.



7.2 Streams

When you click with the right mouse button on any symbol of stream on the map, information about the corresponding stream will be shown on the **Streams** panel.

General information related to the highlighted tidal stream and input time is shown in the left part of the panel:

- **Time Zone –** Time difference between standard (local) time of tidal stream and UTC.
- **Direction –** Direction of the tidal stream.
- **Speed** – Speed of tidal stream.
- **Flood/Ebb –** Shows if current tidal stream object is in flood or ebb state according to appropriate tidal station.

Detailed information about the tidal stream is represented in **Graph** and **Speed/Directions** tabs:

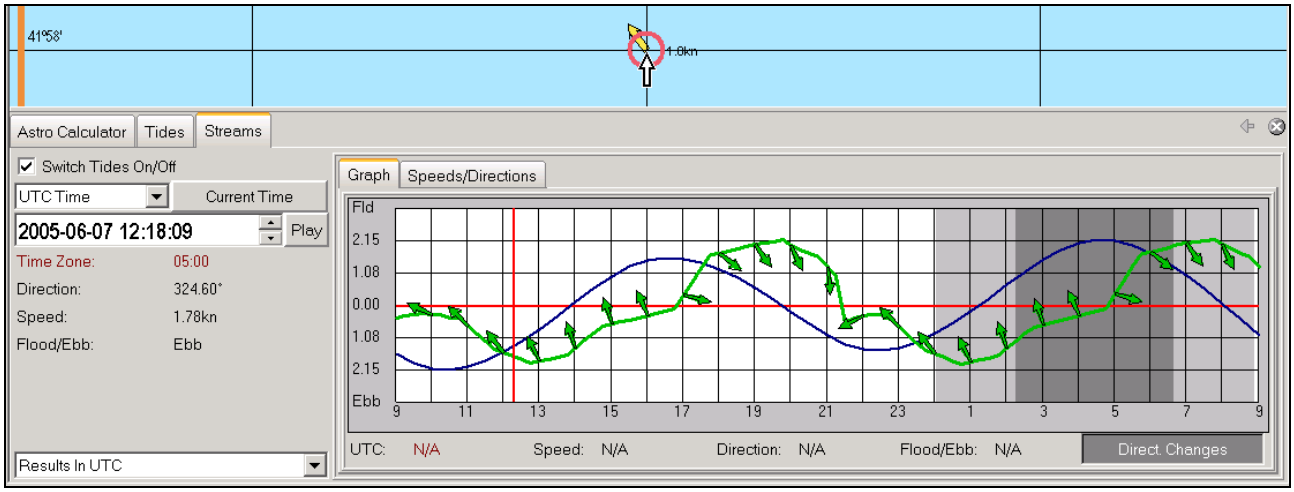
➢ **Graph –** Tidal stream speed (in knots) depending on the Time is graphically expressed on the diagram. The diagram background consists of three color zones. These zones graphically show night time (dark grey), twilights (light grey) and daytime (white). The red vertical line on the graph marks the time entered in the date-time edit box. Two display modes are available by switching the button **Direct Changes**:

1) Considering tide state – the button **Direct Changes** must be pressed.

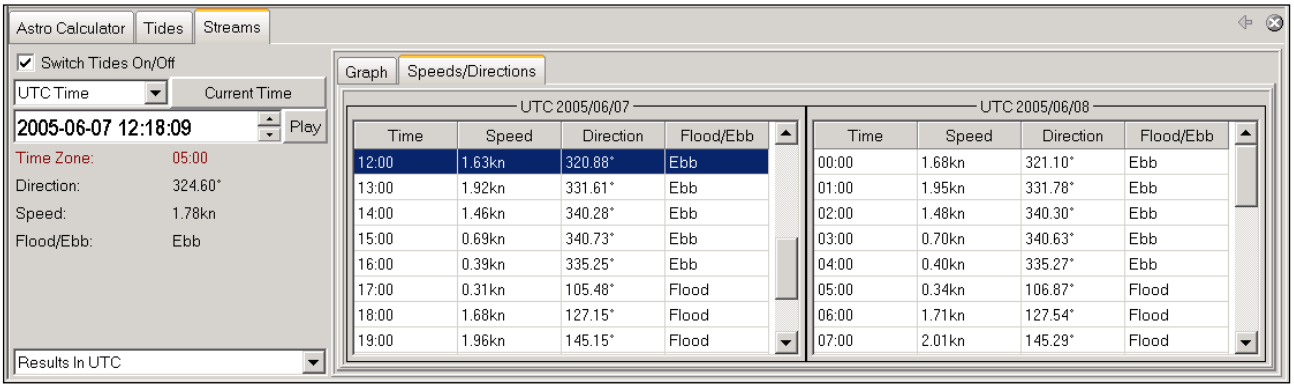
Vertical diagram axis will be divided in two parts by red horizontal line. In the top part the speed of the tidal stream in the flood state and in the bottom part – in the ebb state will be displayed.

2) Not considering tide state – the button **Direct Changes** must not be pressed. Diagram displays absolute values of speed and direction without taking into account flood and ebb states.

Direction of tidal stream is graphically shown for every hour as green arrows. The blue thin graph line is a graph of water height levels of appropriate tidal High/Low water station, if it exists for given tidal stream object. Note, that it is only a schematically drawn graph without any level marks. In addition there is a very useful feature within the diagram. When you move the mouse pointer over the diagram area the time and the corresponding tidal stream direction and speed are shown below allowing you to obtain detailed information.



➢ **Speed/Directions –** Provides the information about speed and direction predictions for next two days, starting from the current day. The step of such predictions is one hour.



7.3 Astronomical Calculator

Information about celestial bodies is accessible on the **Astro Calculator** panel. This panel works in two modes:

1) If any of tide location or tidal stream object is selected, the **Time Zone**, **Latitude** and **Longitude** fields contain the calculated time zone and geographical coordinates of such object. In other words, the geographical position will be equal to geographical position of the currently selected object.

2) If no tide location or tidal stream object is selected, the calculated time zone and geographical coordinates of the point, corresponding to the screen center are shown.

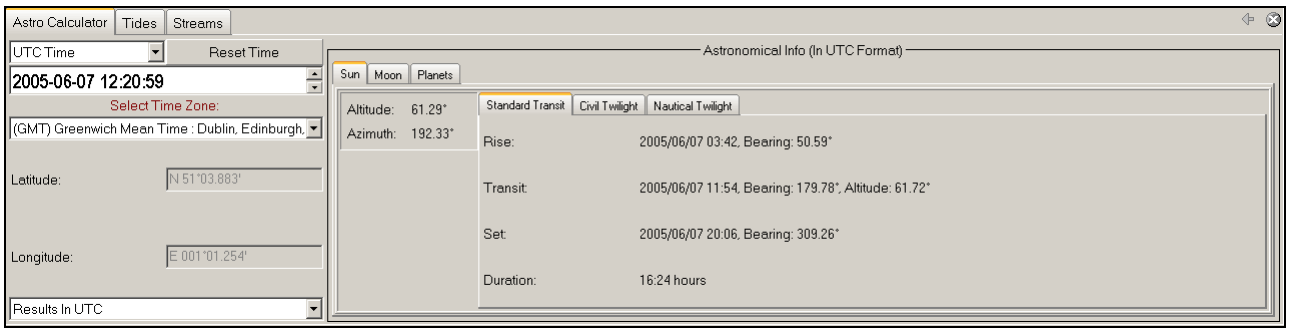
Please note that calculated value of the time zone may be not exact and you can correct it by choosing the right value from the drop down list.

The central part of the panel contains the **Sun**, **Moon** and **Planets** tabs with astronomical information:

➢ **Sun –** Provides the information about the current position and height of the sun above horizon as well as about sunrise, twilight and sunset for the input date.

➢ **Moon –** Provides the information about the current position and height of the moon above horizon; as well as about rising, decline and following phases of the moon for the input date.

➢ **Planets –** Provides the information about planets selected in the drop down list: current position, height above horizon, rising and decline for the input date.



8.0 Weather Forecast

Warning!

In order to get access to Weather forecast data and advanced functionality such as weather and alarms along routes, you have to subscribe and be registered at C-MAP Marine Forecast. In order to get access to Weather forecast data you have to subscribe and be registered at C-MAP Norway. For more information, please contact C-MAP Norway AS.

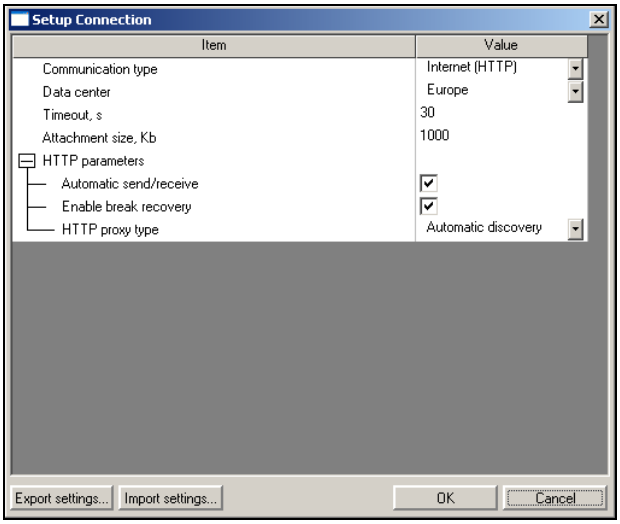
8.1 Downloading Weather Data

8.1.1 Setup Connection

Weather forecast data is transferred over the Internet. OceanView™ provides you with two means of data transfer: you can use HTTP or e-mail connection. OceanView™ uses HTTP connection by default and has to be connected to the Internet to be able to transfer data.

You can configure communication settings through the **Setup Connection** function: **Weather → Download data → Setup Connection**.

The menu option opens the **Setup Connection** window where communication setup options are available.



You can set the following options:

- **Communication type** – you can choose between HTTP and e-mail connection. To comply with different ship or office communication set-ups, you are offered four e-mail connection types: SMTP/POP3, Inbox via MAPI, Folder Send/Recv, and Manually via Attachment. See detailed description of all communication connections further on in the manual.

- **Data center** – set the center on the continent where you are now to have data transferred faster. So far, only the Europe data center is available, please check for other available centers later)

- **Timeout** – time period during which the answer from weather data server is awaited (relevant for HTTP, SMTP/POP3, and Inbox via MAPI connections).

- **Attachment size** – you can set preferred maximum size of a data pack that can be attached to an e-mail sent to you (relevant for all e-mail connections). In case the set attachment size is less than the size of the ordered weather package, the package is broken down into several data packs that are sent to you in several e-mails. Set the parameter to '0' or '-1' if you want that weather packages be sent to you in one e-mail.

- **Communication parameters** – depending on the type of communication you selected in the **Communication type** option, you will be given a possibility to configure a set of parameters specific for this communication type.

After you have configured connection you can save settings for further use. To do so:

1. Press the **Export settings** button.
2. In the **Save As** dialog window, indicate location where the *.xml file with settings will be saved.
3. Enter the file name and press **Save**.

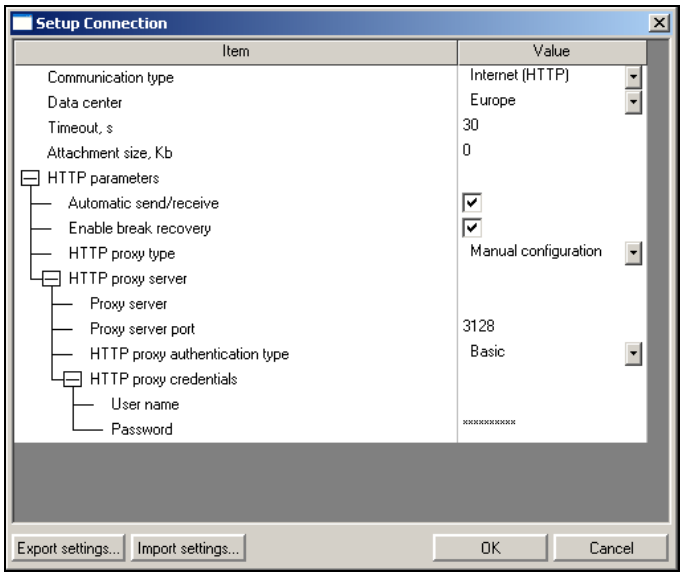
To load previously saved settings:

1. Press the **Import settings** button.
2. In the **Open** dialog window select the *.xml file with saved settings and press **Open**.

Communication Types

➢ **Internet (HTTP)**

If you set the **Internet (HTTP)** communication type, OceanView™ will use standard HTTP protocol to send requests and receive weather data. You can configure HTTP parameters in the **Setup Connection** window in the **HTTP parameters** branch of the connection parameters tree.

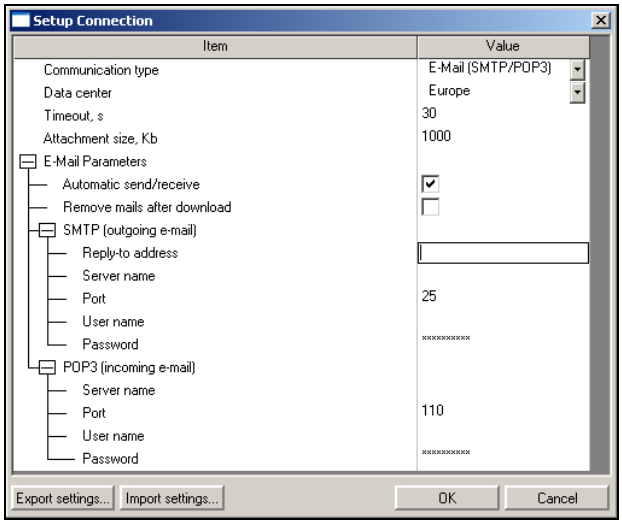


The **HTTP proxy type** parameter can be set to the following values:

- **Direct connection** – Use the option if you do not use proxy server to provide connection to the Internet.
- **Automatic discovery** – Use the option if you do not know exact parameters of your proxy server, or if you are not sure that your internet connection is provided through a proxy server. Set this option and the program will find proxy server automatically.
- **Manual configuration** – Use the option if your internet connection is provided through a proxy server and you know all parameters of the server.

➢ **E-Mail (SMTP/POP3)**

If you set the **E-Mail (SMTP/POP3)** e-mail connection option, OceanView™ is acting as an e-mail program and is using standard incoming and outgoing data transfer protocols. In the **Setup Connection** window you can configure protocols settings in the **E-Mail Parameters** branch of the connection parameters tree.



➢ **E-Mail (Inbox via MAPI)**

If you set the **E-Mail (Inbox via MAPI)** connection option, OceanView™ will use the e-mail program installed on your computer to send data requests and receive weather data files. For OceanView™ to be able to use your e-mail program, the program should support MAPI (Messaging API).

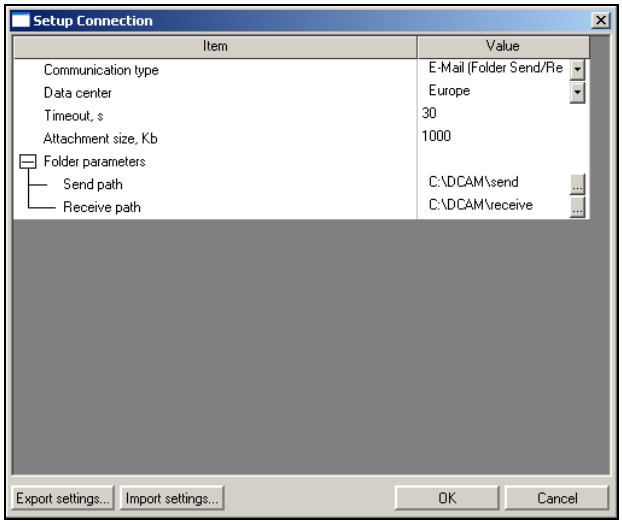
OceanView™ then processes received weather data and loads weather packages automatically.

➢ **E-Mail (Folder Send/Recv)**

In case you use the **E-Mail (Folder Send/Recv)** e-mail connection option, you need to set paths to two folders: Send folder (Send path) and Receive folder (Receive path). Folders are set in the **Folder Parameters** branch of the connection parameters tree.

- **Send folder** (Send path) is the folder where data requests are saved as *.xml files. The files have a predefined name format 'request_xxxxx.xml' (you are not allowed to change request file names). After a request file is generated and saved, send it as an attachment to an e-mail to datacenterx@c-map.no. Weather data will be sent to you attached to the response e-mail.

- **Receive folder** (Receive path) is the folder where weather data files received from the data center should be saved. OceanView™ checks the **Receive folder** periodically and when the program finds data files there, it loads the weather package automatically. The loaded weather package is added to the **Weather Packages** window.

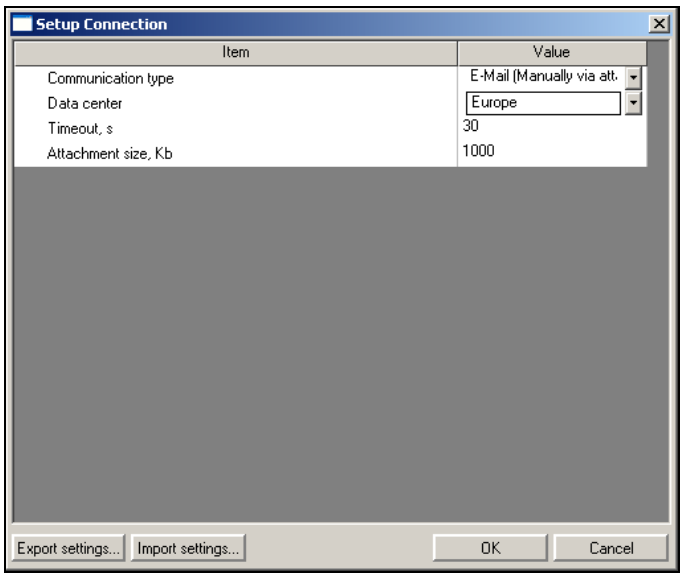


➢ **E-Mail (Manually via Attachment)**

If you use the **E-Mail (Manually via Attachment)** e-mail connection option, you will have to send request files and receive and install weather packages manually.

In this case request file is generated when you press the **Send Request** button in the **Weather Download Request** window. Save the file to any location on your computer and send it as an attachment to an e-mail to datacenterx@c-map.no.

You will receive a response (e-mail) with weather package files attached to it. Save the files to any location on your computer. To load the weather package files, use the **Import Response File** function in the **Weather Packages** window.



Warning!

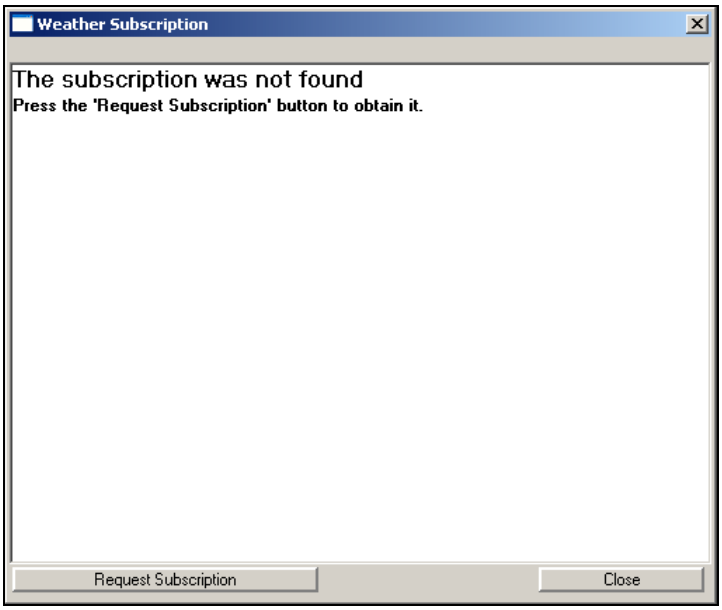
When using an e-mail connection, make sure to configure settings correctly. Connection settings configuration is a one-time job that should be done by an IT-specialist to ensure the right options and settings are used.

C-MAP Datacenter e-mail address is datacenterx@c-map.no.

8.1.2 Subscription

After you have subscribed to the Weather Forecast Service you have to download the subscription to OceanView™.

You are asked to download subscription information when you start downloading weather data for the first time (no matter which downloading option you are using).The **Weather Subscription** window opens with a message that the subscription is not found:



To obtain subscription, press the **Request Subscription** button. Depending on the communication type set in the **Setup Connection** parameters (see chapter VII.1.1) you will have to perform the following actions:

- **Internet (HTTP)**

  1. Press the **Request Subscription** button.
  2. Subscription request will be sent and subscription received and downloaded automatically.

- **E-mail (SMTP/POP3)**

  1. Press the **Request Subscription** button.
  2. Subscription request will be sent and subscription received and downloaded automatically.

- **E-mail (MAPI)**

  1. Press the **Request Subscription** button.
  2. Subscription request will be sent and subscription received and downloaded automatically.

➢ **E-mail (Folder Send/Recv)**

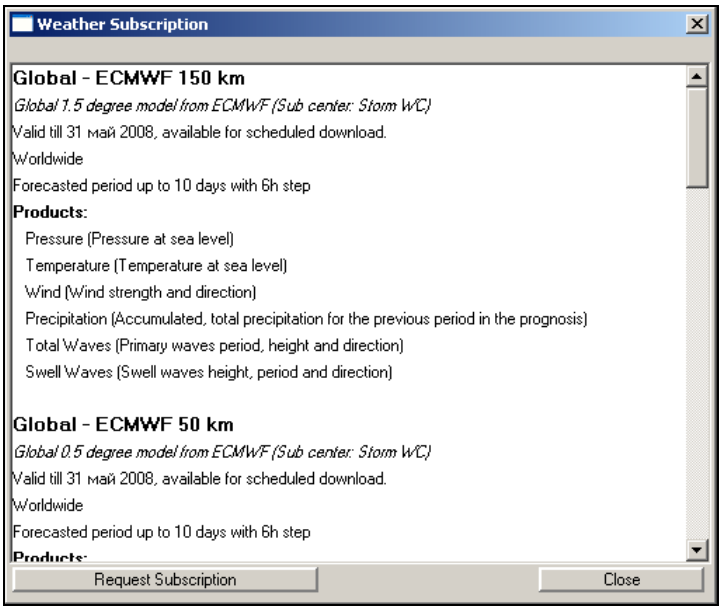
1. Press the **Request Subscription** button, the subscription request file will be generated and saved to the **Send** folder.
2. Send the subscription file as an attachment to an e-mail to datacenterx@c-map.no.
3. You will receive the subscription file in the response e-mail, save the file to the **Receive** folder.
4. OceanView™ will load the subscription automatically.

➢ **E-mail (File via Attachment)**

1. Press the **Request Subscription** button.
2. Save the generated subscription file to any location on your computer.
3. Send the file as an attachment to an e-mail letter to datacenterx@c-map.no. You will receive the subscription in the response e-mail.
4. Save the subscription to any location on your computer.
5. Download the subscription to OceanView™.

You can access the subscription through **Weather → Download Data →Subscription** menu option.

The **Weather Subscription** window opens with subscription information displayed in the window.


Weather Subscription
Global - ECMWF 150 km
Global 1.5 degree model from ECMWF (Sub center: Storm WC)
Valid till 31 май 2008, available for scheduled download.
Worldwide
Forecasted period up to 10 days with 6h step
Products:
Pressure (Pressure at sea level)
Temperature (Temperature at sea level)
Wind (Wind strength and direction)
Precipitation (Accumulated, total precipitation for the previous period in the prognosis)
Total Waves (Primary waves period, height and direction)
Swell Waves (Swell waves height, period and direction)
Global - ECMWF 50 km
Global 0.5 degree model from ECMWF (Sub center: Storm WC)
Valid till 31 май 2008, available for scheduled download.
Worldwide
Forecasted period up to 10 days with 6h step
Products:
Request Subscription
Close

Subscription information includes a list of products you have subscribed to. For each product the following information is provided:

- Geographical weather model type
- Validity
- Coverage
- Forecast period and time step
- Weather forecast elements provided for the product (pressure, temperature, and so on)

In case you have changed weather data subscription terms, you will have to renew weather subscription. To do so, go to **Weather → Download Data →Subscription** and in the **Weather Subscription** window press the **Request Subscription** button. Your further actions on sending/receiving subscription depend on the communication type set in the **Setup Connection** parameters (see above).

Remark

Weather packages that you receive include subscription files and your subscription is renewed automatically every time you receive a new weather package. So, in fact, you do not have to renew your subscription manually.

8.1.3 Downloading Weather

After you have received the subscription to weather products, you are ready to download and display weather data.

Weather Download Types

OceanView™ provides four types of data download:

- **Easy Mode Download**

This option allows downloading of all weather products listed in your subscription. Configure weather download request using the **Setup Easy Mode** function (**Weather → Download data → Setup Easy Mode**). The **Setup Easy Mode** function opens the **Weather Download Request** window (see chapter VII.1.4) where you can configure the request.

After the request is configured you can order data by simply selecting the **Easy Mode Download** option from the menu (**Weather → Download data → Easy Mode Download**).

- **Overview Download**

This option only allows downloading of the Global – ECMWF 150 km weather model. You can set parameters of the weather request in the **Weather Download Request** window (see chapter VII.1.4); the window opens when you select the **Overview Download** menu option (**Weather → Download data → Overview Download**).

- **Coastal Download**

This option only allows downloading of the Global – ECMWF 50 km weather model. You can set parameters of the weather request in the **Weather Download Request** window (see chapter VII.1.4). The window opens when you select the **Coastal Download** menu option (**Weather → Download data → Coastal Download**).

- **Customized Download**

This option allows downloading of all weather products listed in your subscription. You can set parameters of the weather request in the **Weather Download Request** window (see chapter VII.1.4). The window opens when you select the **Customized Download** menu option (**Weather → Download data → Customized Download**).

Remark

The **Easy Mode** option is the fastest and easiest way to download and view weather data, and we recommend this option for daily inspections especially if you are connected to the Internet.

The **Overview** option is used to inspect weather forecast over a larger area. If you use this option you have smaller files to download.

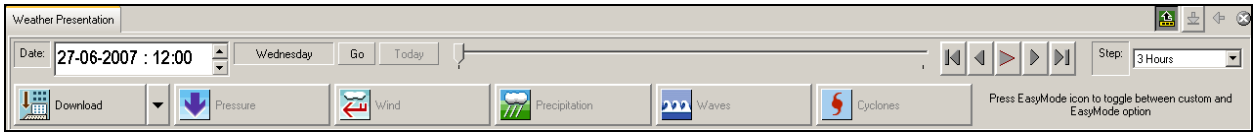
The **Coastal** option is used to see most detailed weather information.

The **Custom** option will allow you to customize your weather request more thoroughly.

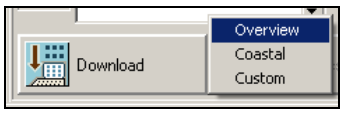
Access to Weather Download Function

There are several ways to access OceanView™ weather download function:

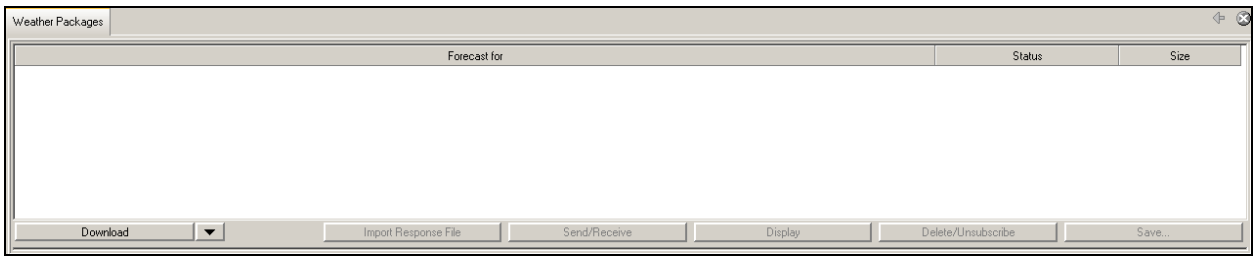
- Using main menu options **Weather → Download data → Easy Mode Download / Overview Download / Coastal Download / Customized Download**.
- Using the **Download** button of the **Weather Presentation** panel (**Weather → Weather Presentation**) in **Easy Mode** (the panel always opens in Easy Mode).



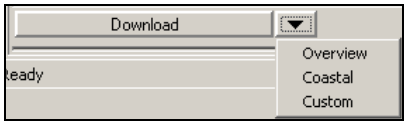
When you press the **Download** button (in the lower left corner of the panel) the **Easy Mode Download** type is activated. To download weather data using other download types, press the down arrow at the left side of the **Download** button and from the drop-down list select the download type you need.



- Using the **Download** button of the **Weather Packages** panel (**Weather → Weather Packages**).



When you press the **Download** button the **Easy Mode Download** type is activated. To download weather data using other download types, press the down arrow at the left side of the **Download** button and select the download type you need.



Remark

For all download options except the Easy Mode download the **Weather Download Request** window is used. It opens when you call the OceanView™ data download function.

In the **Weather Download Request** window you can customize the weather data request so that it is made according to your needs and requirements. To start the download procedure after the request is configured, press the **Send Request** button. For more details about the **Weather Download Request** window, see chapter VII.1.4.

Weather Download Procedures

To request and download weather data, perform the following procedures (the procedures depend on the communication type set in the **Setup Connection** parameters (see chapter VII.1.1)):

- **Internet (HTTP)**

1. Open the **Weather Download Request** window (see Access to Weather Download Function). To use the Easy Mode download just press the **Send Request** button and confirm the approximate weather package size.
2. Configure the request (see chapter VII.1.4).
3. Press the **Send Request** button.
4. Weather data request will be sent and data received and downloaded automatically if in the **Setup Connection** parameters the **Automatic send/receive** parameter is checked (see chapter VII.1.1).
5. In case the **Automatic send/receive** parameter is not checked, the request will be put to the **Weather Packages** table in the waiting mode. To send the request, press the **Send/Receive** button in the **Weather Packages** panel.

- **E-mail (SMTP/POP3)**

1. Open the **Weather Download Request** window (see Access to Weather Download Function). To use the Easy Mode download just press the **Send Request** button and confirm the approximate weather package size. Configure the request (see chapter VII.1.4).
2. Press the **Send Request** button.
3. Weather data request will be sent and data received and downloaded automatically if in the **Setup Connection** parameters the **Automatic send/receive** parameter is checked (see chapter VII.1.1). The procedure will take more time than it does in case of the **Internet (HTTP)** communication type.
4. In case the **Automatic send/receive** parameter is not checked, the request will be put to the **Weather Packages** table in the waiting mode. To send the request, press the **Send/Receive** button in the **Weather Packages** panel.

- **E-mail (MAPI)**

1. Open the **Weather Download Request** window (see Access to Weather Download Function). To use the Easy Mode download just press the **Send Request** button and confirm the approximate weather package size. Configure the request (see chapter VII.1.4).
2. Press the **Send Request** button.
3. Weather data request will be sent and data received using the e-mail program installed on your computer (make sure that your e-mail program supports the MAPI). The received weather data are downloaded automatically.

➢ **E-mail (Folder Send/Recv)**

1. Open the **Weather Download Request** window (see Access to Weather Download Function). To use the Easy Mode download just press the **Send Request** button and confirm the approximate weather package size. Configure the request (see chapter VII.1.4).

2. Press the **Send Request** button, the data request file will be generated and saved to the **Send** folder. Request files have a predefined name format 'request_xxxxx.xml.'

3. Send the request file as an attachment to an e-mail to datacenterx@c-map.no.

4. You will receive the data file(s) in the response e-mail, save the file(s) to the **Receive** folder.

5. OceanView™ will load the data automatically.

➢ **E-mail (File via Attachment)**

1. Open the **Weather Download Request** window (see Access to Weather Download Function). To use the Easy Mode download just press the **Send Request** button and confirm the approximate weather package size. Configure the request (see chapter VII.1.4).

2. Press the **Send Request** button.

3. Save the generated request file to any location on your computer. Request files have a predefined name format 'request_xxxxx.xml.'

4. Send the file as an attachment to an e-mail to datacenterx@c-map.no. You will receive the weather data file(s) in the response e-mail.

5. Save the file(s) to any location on your computer.

6. To download the data, open the **Weather Packages** panel (**Weather → Weather Packages**) and in the panel press the **Import Response File** button.

7. In the **Open** dialog window select the file(s) to download and press **Open**. The file(s) will be downloaded to OceanView™. If the received weather package is split into several files, download all the files of the package one by one; when the last file of the package is downloaded (the order of downloading is of no importance), the package appears in the **Weather Packages** window (for more details on the **Weather Packages** window, see chapter VII.1.5).

8.1.4 Weather Download Request Window

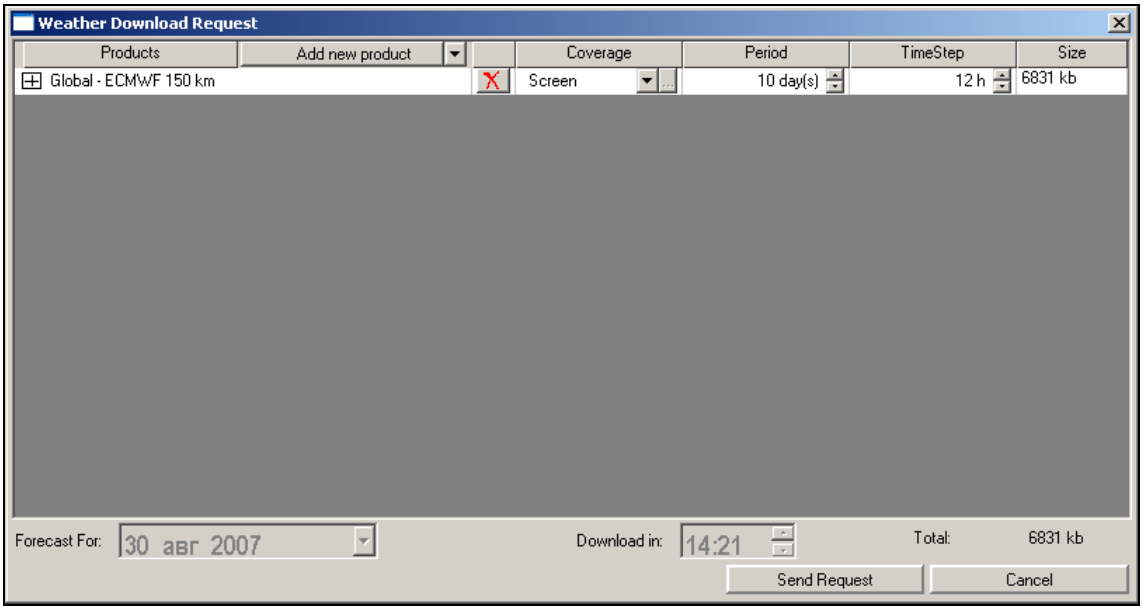
General Description

Each time you download weather data using Overview, Coastal, or Customized download types, you are offered to customize data requests in the **Weather Download Request** window. Using functions provided in the window, you can select weather products (only for Customized Download) to be requested, set weather parameters for each product as well as set coverage, time period and time step.

The **Weather Download Request** window is also used to setup the Easy Mode download type (**Weather → Download data → Setup Easy Mode**) and to configure scheduled download (**Weather → Download data → Scheduled Download**).

The **Weather Download Request** window is modified in a specific way for its different functions. The modifications are described below in the Modifications of the Weather Download Request Window chapter.

Below you can see the general view of the **Weather Download Request** window:



The window contains the request table, **Forecast for** and **Total** information panels, and **Send Request** and **Cancel** functional buttons.

In the request table you can add a product to the request, set the product parameters, remove a product from the request, set a geographic area for which a forecast is required, set the period for which you need weather data, and the time step of weather parameters readings.

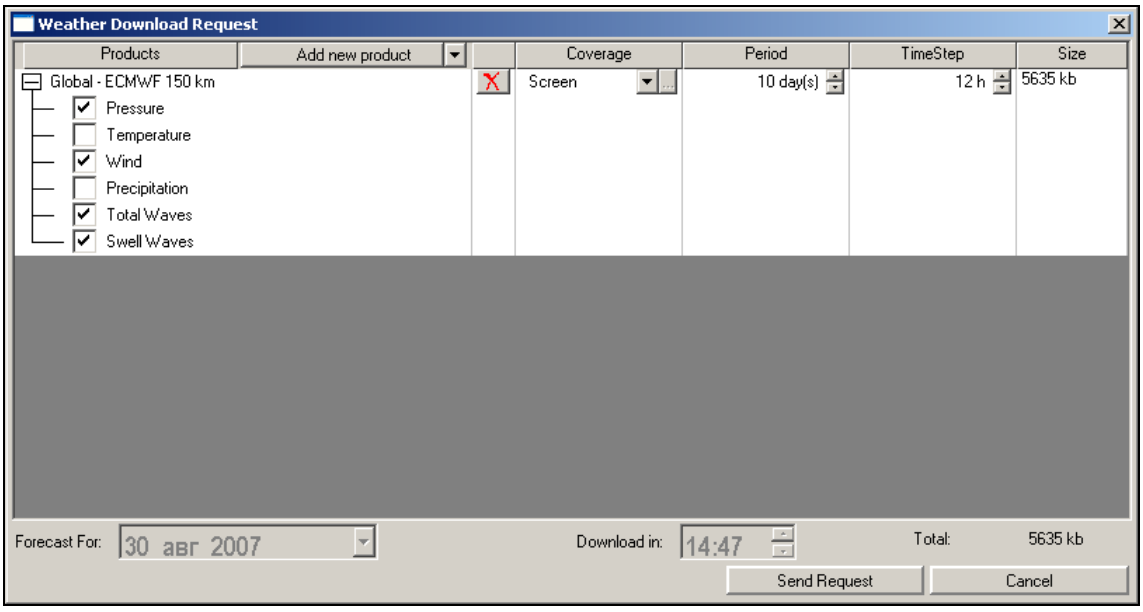
➢ **To add a product to the request:**

1. Press the **Add new product** button.

2. Select the product you want to add in the drop-down list. The product appears in the table and is removed from the list.

➢ **To set product parameters:**

1. Click on the plus '+' sign near the product name to expand the product parameters list (to collapse the list, press the minus '-' sign near the product name).

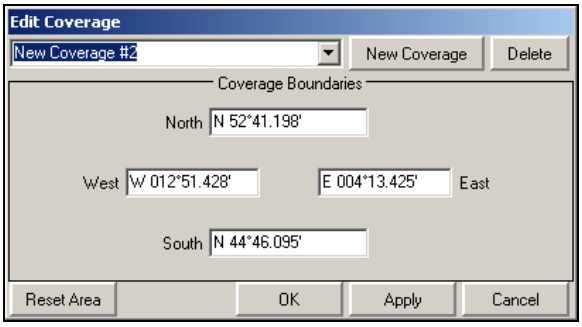


2. Check those weather parameters you want to receive.

➢ To remove a product from request, press the product **Remove** button .

➢ To set a geographic area, choose a predefined coverage from the drop-down list or set your own coverage. To set a new coverage:

1. In the drop-down list, select the **Add New Coverage** option. The **Edit Coverage** window opens.



2. Initially the **New Coverage** boundaries are boundaries of your current screen view. You can set new boundaries either by entering new coordinate values to the **North**, **South**, **East**, and **West** fields (coordinate values are in degrees, minutes and fractions of minute) or by selecting a new coverage on the screen.

3. To select a new coverage on the screen

   a. Move the mouse pointer to the edge of the coverage displayed on the screen (a red frame).

   b. When the pointer changes to the horizontal resize pointer ↔, click the right mouse button and drag the coverage boundary holding the button. Release the button when the coverage boundary is in the right place.

   c. You can also move the coverage: move the mouse inside the selected area, the pointer will change to the move pointer ✥, press the right mouse button and move the coverage. Release the button when the coverage area is in the right place.

   d. Coordinate values in the **North**, **South**, **West**, and **East** fields of the **Edit Coverage** window change in accordance with selection on the screen.

4. After you have defined boundaries of the new coverage, press **Apply** to save the settings in the list of coverage areas.

5. Press **Reset** to restore initial coverage boundaries (the screen coverage boundaries set when the **Edit Coverage** window has just been opened).

6. To create a new coverage, press the **New Coverage** button. The name of the new coverage will appear in the list. The default new coverage name is 'New Coverage #x,' you can change the name to any name you like.

7. Press the **Delete** button to delete a selected coverage from the list.

8. Press **OK** to return to the **Weather Request Download** window.

9. Now new coverage areas are in the coverage areas drop-down list. You can select any of these areas for your request.

➢ In the **Period** field select time period for which you need weather forecast.

- In the **TimeStep** field select time step at which weather parameters readings from the weather package are made.

- In the **Size** field an approximately estimated weather package size is displayed. The total size of the request is displayed in the **Total** information panel at the lower right corner of the window.

- The **Forecast for** box is only active for **Historical Weather** function and the **Download in** box is only active for the **Scheduled Download** function (see chapter Modifications of the Weather Download Request Window).

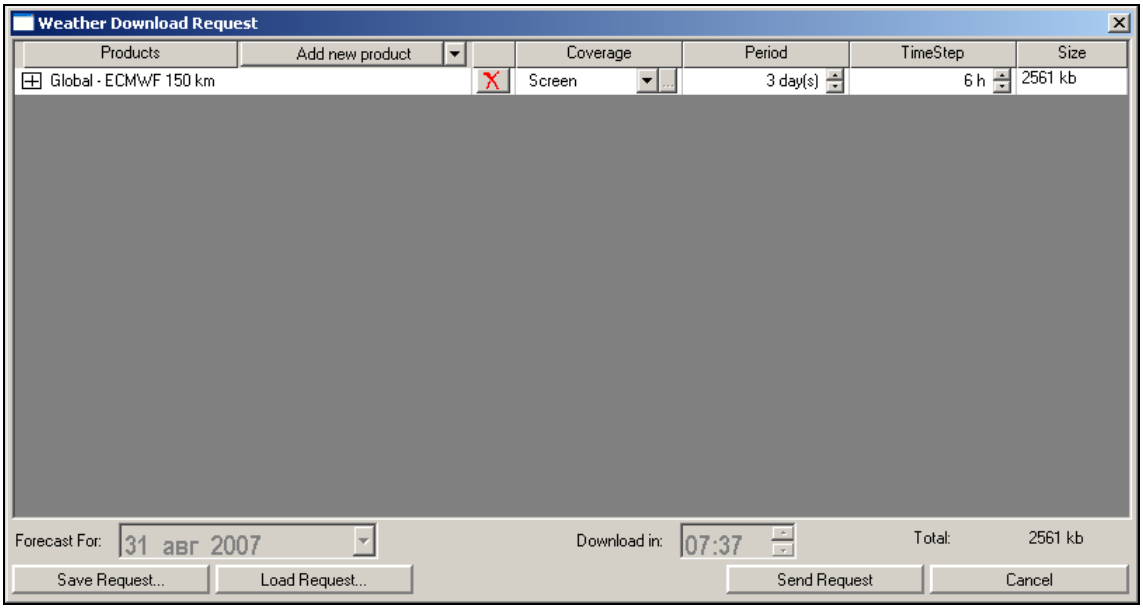
- Press the **Send Request** button to send data request or **Cancel** to cancel weather downloading.

Modifications of the Weather Download Request Window

The **Weather Download Request** window for different weather download types has some additional features in comparison with its basic mode. It stays unchanged for **Overview** and **Coastal** download types and changes for **Customized**, **Easy Mode** download types and for **Scheduled Download**.

- **For Customized Download**

The **Weather Download Request** window for customized download has an additional function: you can save the request to a file and load it later (the **Save Request** and **Load Request** buttons).



To save the current request:

1. Press the **Save Request** button.

2. In the **Save As** dialog window indicate location where you want to save the request, enter the file name, and press **Save**. The request file format is *.xml.

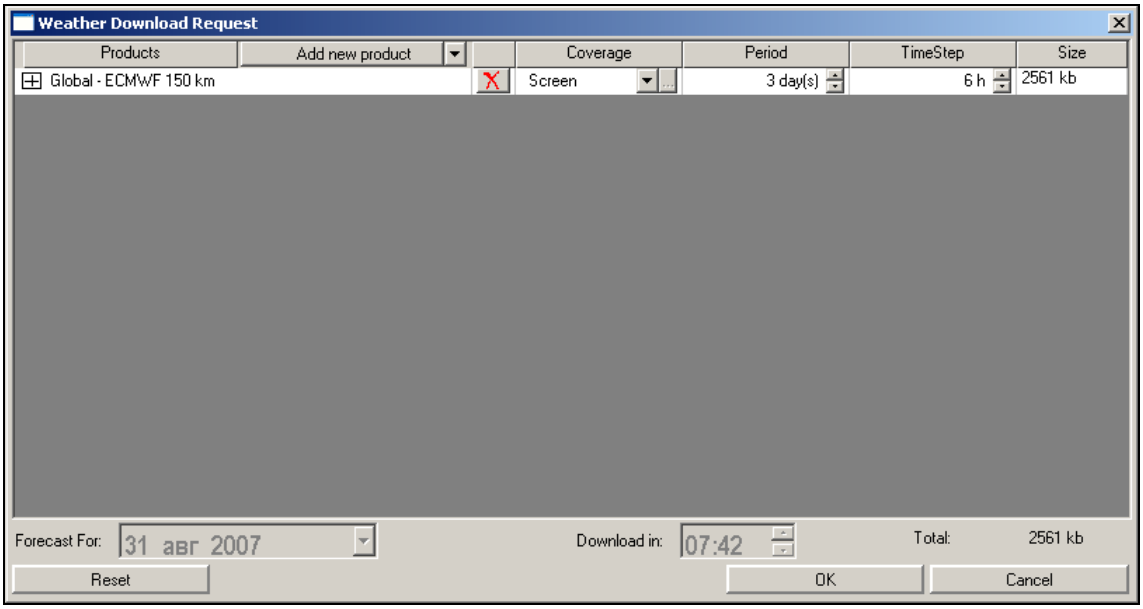
To download a previously saved request:

1. Press the **Load Request** button.

2. In the **Open** dialog select the request file and press **Open**.

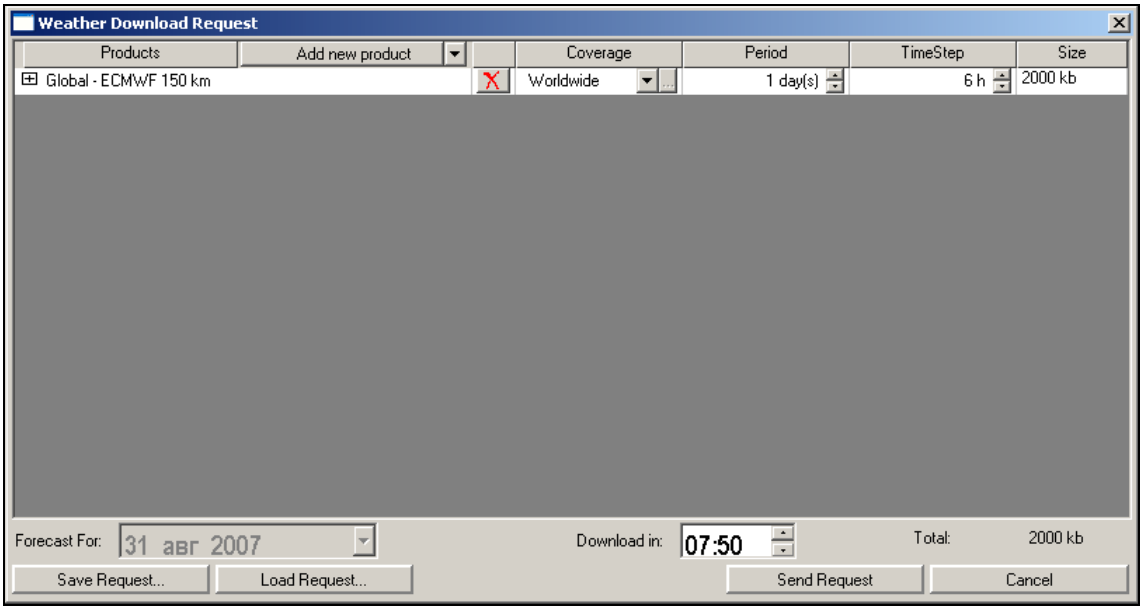
➢ **For Easy Mode Download Setup**

The **Easy Mode Download** has predefined settings which can be changed in the **Weather Download Request** window used for **Easy Mode** setup (**Weather → Download data → Setup Easy Mode**). You can return to the default settings by pressing the **Reset** button added to the download request window.



➢ **For Scheduled Download**

When you are using the **Scheduled Download** function the **Download in** box becomes active (for more information about **Scheduled Download** see chapter VII.1.6). You should enter or select the time at which you will receive weather data every day. The box is active if the request contains any product; if the request table is empty, the **Download in** inbox is dimmed.



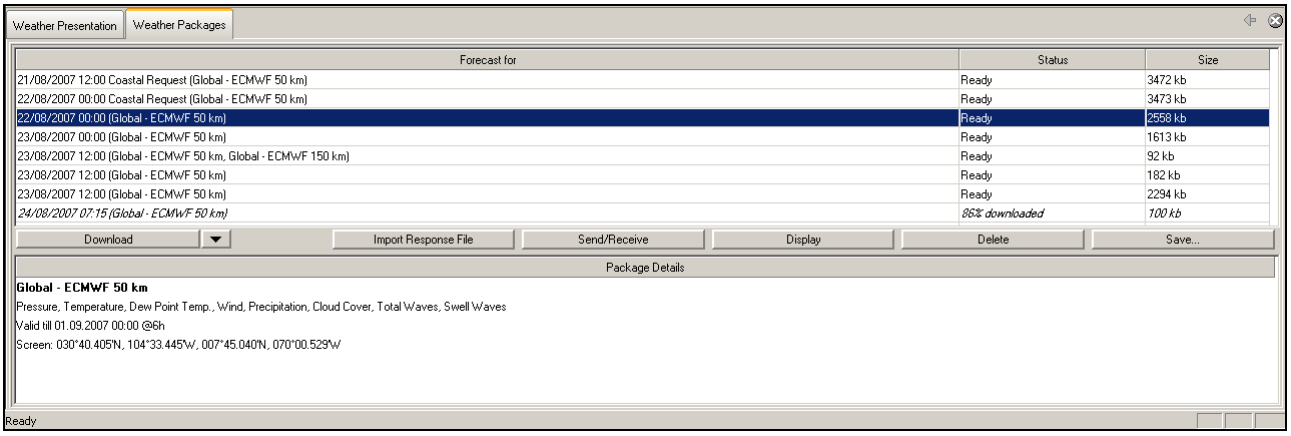
The **Weather Download Request** window for **Scheduled Download** also has the **Save Request** and **Load Request** buttons so that you can save request to a file for further use.

8.1.5 Weather Packages Panel

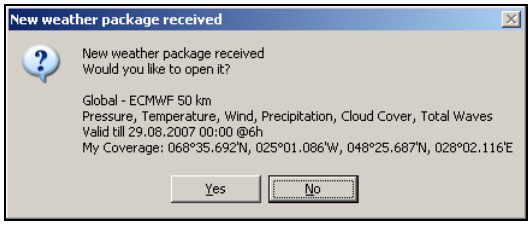
When your have configured the request in the **Weather Download Request** window (see chapter VII.1.4) you press the **Send Request** button to start weather downloading. The weather package request is displayed in the **Weather Packages** panel.

When you send the request, the **Weather Packages** panel opens automatically. To open the panel manually, go to **Weather → Weather Packages**.

Depending on your choice of communication, you will receive weather data instantly (Internet) or with a delay (E-Mail) (see chapter VII.1.1). The progress of the downloading and the status of all weather packages are shown in the **Weather Packages** panel:


Weather Presentation
Weather Packages
Forecast for
Status
Size
21/08/2007 12:00 Coastal Request (Global - ECMWF 50 km) Ready 3472 kb
22/08/2007 00:00 Coastal Request (Global - ECMWF 50 km) Ready 3473 kb
22/08/2007 00:00 (Global - ECMWF 50 km) Ready 2558 kb
23/08/2007 00:00 (Global - ECMWF 50 km) Ready 1613 kb
23/08/2007 12:00 (Global - ECMWF 50 km, Global - ECMWF 150 km) Ready 92 kb
23/08/2007 12:00 (Global - ECMWF 50 km) Ready 182 kb
23/08/2007 12:00 (Global - ECMWF 50 km) Ready 2294 kb
24/08/2007 07:15 (Global - ECMWF 50 km) 86% downloaded 100 kb
Download
Import Response File
Send/Receive
Display
Delete
Save...
Package Details
Global - ECMWF 50 km
Pressure, Temperature, Dew Point Temp., Wind, Precipitation, Cloud Cover, Total Waves, Swell Waves
Valid till 01.09.2007 00:00 @6h
Screen: 030°40.405'N, 104°33.445'W, 007°45.040'N, 070°00.529'W
Ready

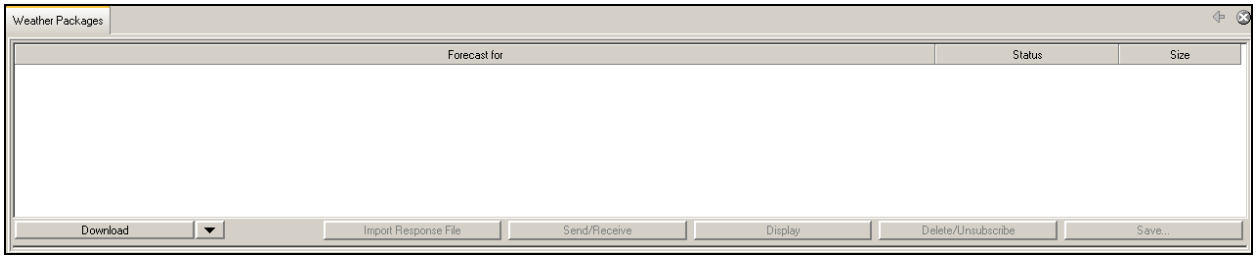
When the request is received, and decrypted, the following information window will be shown.


New weather package received
New weather package received
Would you like to open it?
Global - ECMWF 50 km
Pressure, Temperature, Wind, Precipitation, Cloud Cover, Total Waves
Valid till 29.08.2007 00:00 @6h
My Coverage: 068°35.692'N, 025°01.086'W, 048°25.687'N, 028°02.116'E
Yes
No

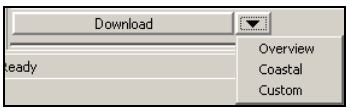
Press **Yes** to display the data on the screen (you might have to switch on particular weather parameters and scroll and zoom to the geographic area where weather forecast should be displayed).

The following functions are available from the **Weather Packages** panel:

- **Weather downloading (the Download button).**



When you press the **Download** button the **Easy Mode Download** type is activated. To download weather data using other download types, press the down arrow at the right side of the **Download** button and select the download type you need. For more information on weather downloading, see chapter VII.1.3.

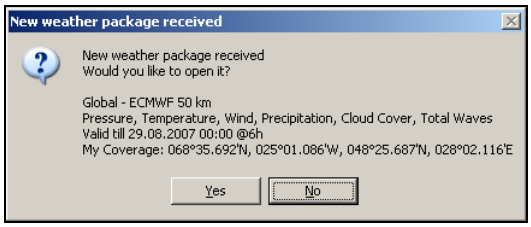


➢ **Import response weather file**

The function is used in case you are using the **E-mail (File via Attachment)** communication type (see chapter VII.1.1). Use the function to import the data file you received as a response to your request.

To import a response file:

1. Press the **Import Response File** button.
2. In the **Open** dialog window select the weather file and press **Open**.
3. In case the received weather package is broken into several files, load all files of the package one by one (the order is of no importance).
4. When the whole weather package is loaded, the following information message appears:


New weather package received
New weather package received
Would you like to open it?
Global - ECMWF 50 km
Pressure, Temperature, Wind, Precipitation, Cloud Cover, Total Waves
Valid till 29.08.2007 00:00 @6h
My Coverage: 068°35.692'N, 025°01.086'W, 048°25.687'N, 028°02.116'E
Yes
No

5. Press **Yes** to display weather data on the screen and **No** if you do not want to display the data.

Warning!

Make sure that the weather package that you are trying to import is in the **Weather Packages** table. If the package is deleted from the table, you will not be able to load response files and in this case you will have to perform ordering/receiving procedure one more time from the beginning.

➢ **Send request and receive weather data**

The function is used if you are using the **Internet (HTTP)** or **E-mail (SMTP/POP3)** communication types and the **Automatic send/receive** parameter is not checked (see chapter VII.1.1). In this case when you send a request, it is not sent immediately but is put to the weather packages panel in the waiting mode.

To send the request and receive weather data, select the request in the weather packages table and press the **Send/Receive** button.

➢ **Display weather data on the screen**

If, after a weather package had just been received, you refuse to display the data on the screen, the received package is saved in the weather packages table but weather data are not displayed in the screen.

To display data of a weather package, select the package in the table and press the **Display** button.

➢ **Delete weather package**

To delete a weather package from the weather packages table, select the package in the table and press **Delete**.

Warning!

Be careful when deleting weather packages: if the package is not saved to a file, you will loose the data. To restore the same data you will have to order them again.

➢ **Save weather package to a file** (GRIB for weather forecasts and ice concentration and XML for cyclones)

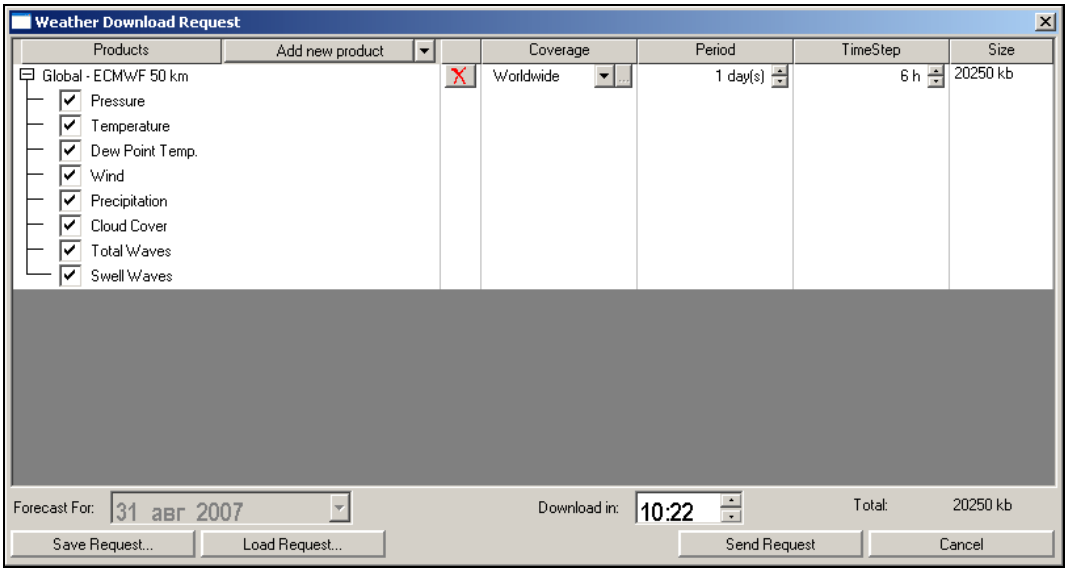
You can save weather data to a file so that you can load the data later.

To save the data, select a weather package in the table and press the **Save** button. In the **Browse For Folder** window indicate the folder where you want to save the file and press **OK**.

To load the saved files go to **Weather → Open data → Browse for GRIB File** or **Weather → Open data → Browse for Cyclone File**.

8.1.6 Scheduled Weather Data

If you would like to receive e-mails with weather package files at a given time each day, the scheduled download is the solution. Go to **Weather → Download Data → Scheduled Download**. This will open the **Weather Download Request** window with the time selection function enabled (for more details on the **Weather Download Request** window, see chapter VII.1.4).



To use the scheduled download function:

1. Go to **Weather → Download Data → Scheduled Download** to open the **Weather Download Request** window.

2. Configure the request in accordance with your needs and requirements, in the **Download in** box select or enter the time at which you want to receive weather data every day.

3. Press the **Send Request** button the request will be sent to the weather forecast server.

Remark

To use **Scheduled Download**, in the **Setup connection** set one of **E-Mail** communication types (see chapter VII.1.1).

8.2 Overlay (or Chart) Presentation

There are several ways to get the weather chart presentation:

1) Click on one of weather icons on the toolbar. For explanation of symbols put the cursor over an icon and a tooltip will appear. For the complete list of icons and the corresponding functionality, see chapter III.

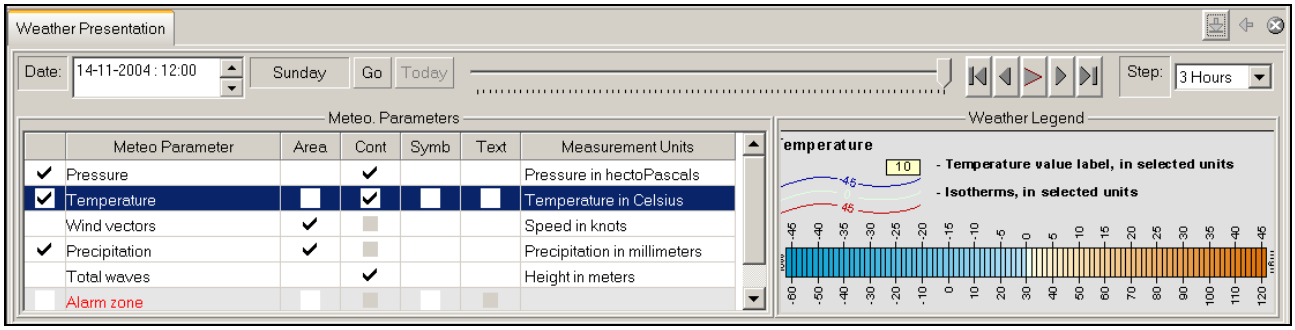
2) Select the **Weather > Show Weather** menu command. All weather parameters which are switched on or off in the **Weather Presentation** panel will be shown or hidden from the map.

3) Open the **Weather Presentation** panels – press the toolbar icon or go to **Weather > Weather Presentation**.

The **Weather Presentation** panel consists of three windows: **Time Information** (with slider), **Meteo Parameters** and **Weather Legend**.

Click with the left mouse button on the icon in the upper right corner to reduce the **Weather Presentation** panel to only show the **Time Information** window. The icon restores the **Weather Presentation** panel to the view with three windows.

The full **Weather Presentation** panel allows adjusting presentation according to your request:



The reduced **Weather Presentation** panel is used when inspecting data on the full screen, only time information is visible:

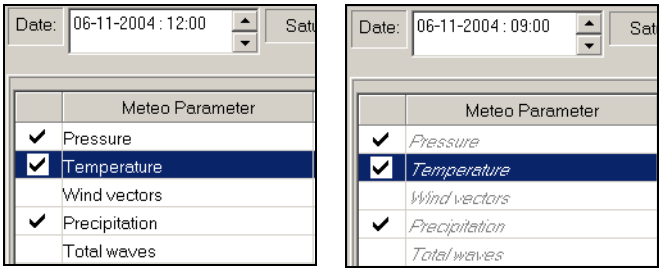
In the **Time information** window, you can adjust time for presentation either by editing the "date-box", by dragging the slider, or by clicking on the animation buttons (from left to right: first step, one step backward, play/stop, one step forward, and last step).

In the chart window you can step forward and backward in time by holding down the Ctrl key and an arrow key:

- <Ctrl> + <right arrow> : one time step forward
- <Ctrl> + <left arrow> : one time step backward
- <Ctrl> + <up arrow> : increase time step to a next step (e.g. from 3 to 6)
- <Ctrl> + <down arrow> : decrease time step to a next step

Time step can be chosen from the drop-down list and set to 1, 3, 6, or 12 hours.

Time interpolation is used if you choose a time step less then the least time step available in the original weather data. To distinguish the interpolated time step from the original time step, the interpolated parameters font type will become *italic* in the **Meteo Parameters** window:



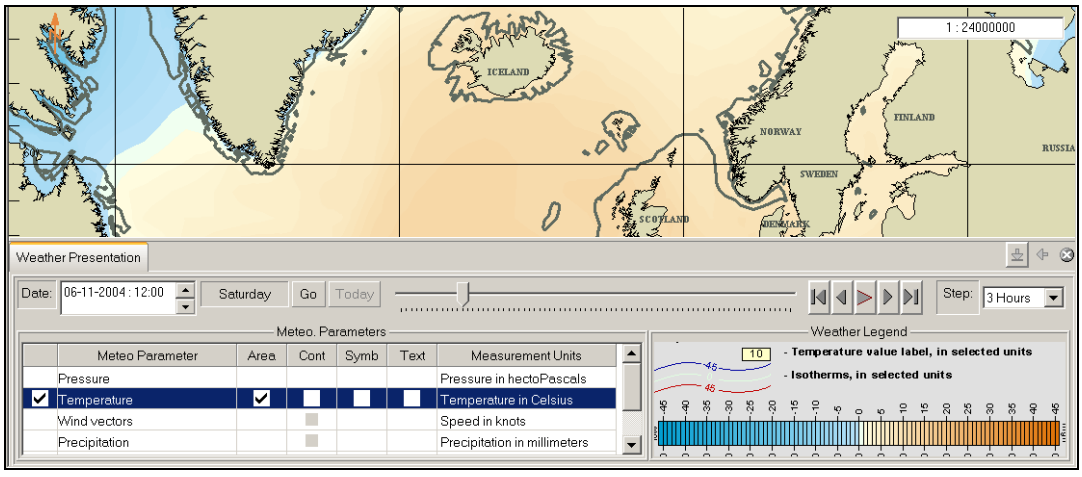
Original **Interpolated**

In the **Meteo Parameters** window you can:

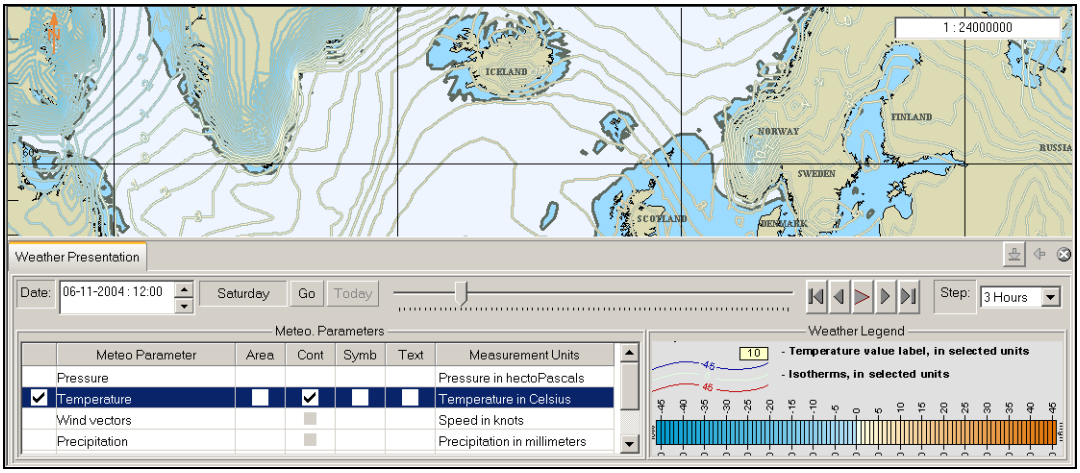
1) Switch on/off parameters by checking them in the left column.

2) Choose a presentation mode for each weather parameter:

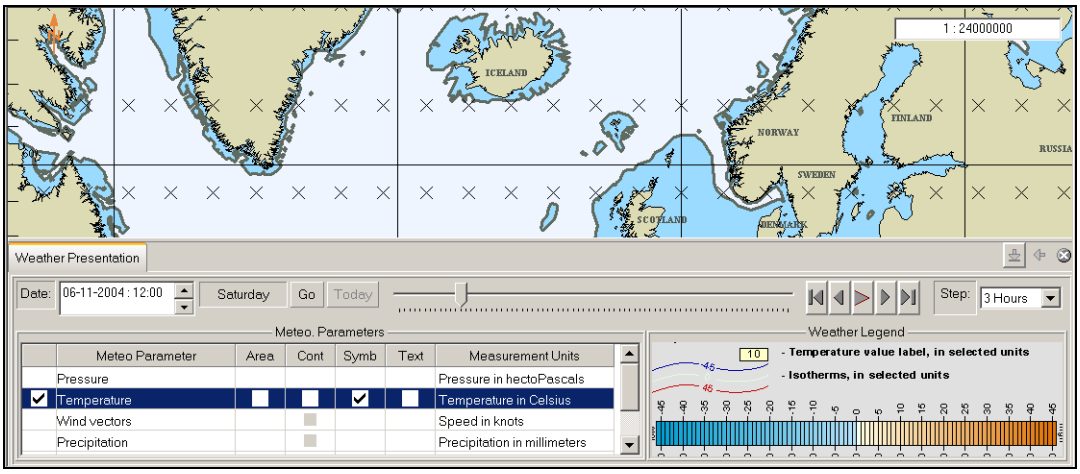
- **Area**: Filled contour

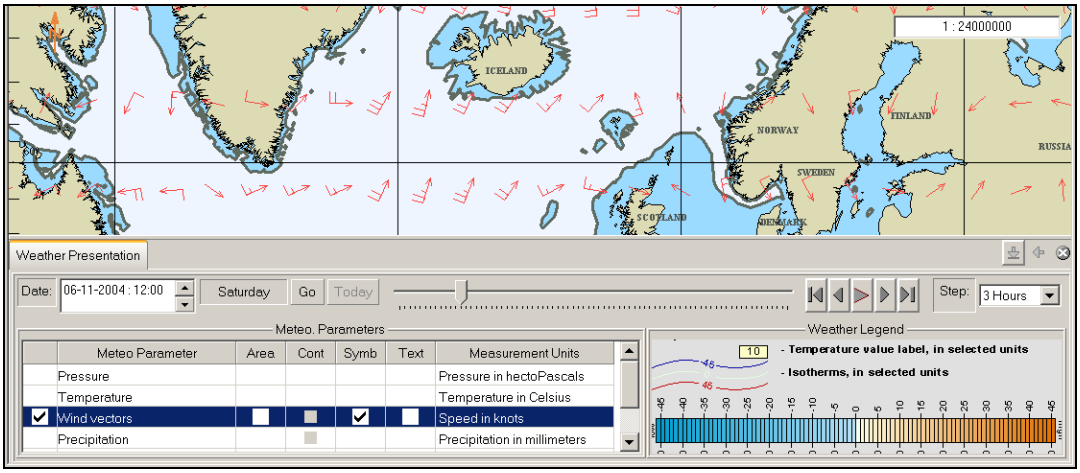


- **Cont**: Contoured lines

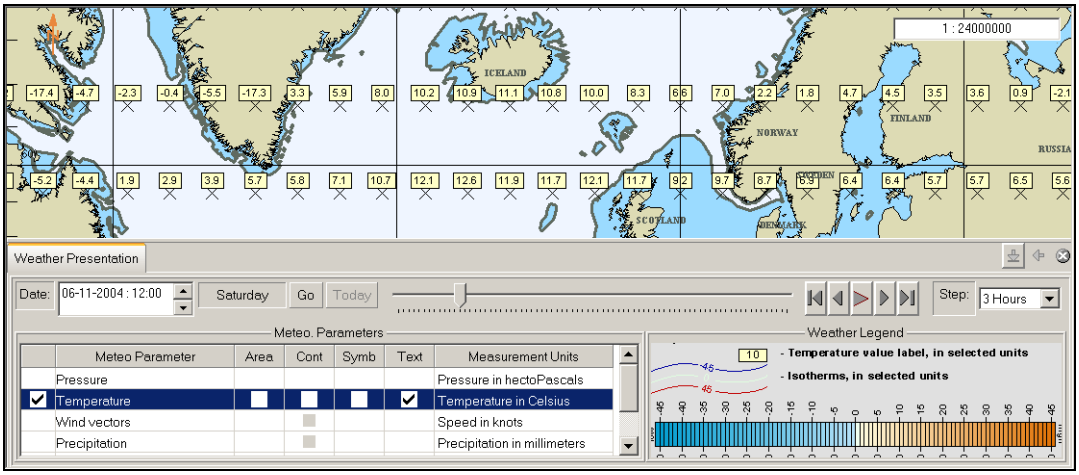


- **Symb**: Vector parameters (e.g. wind) are shown with strength and direction, scalar parameters (e.g. temperature) are shown with an "X" symbol only



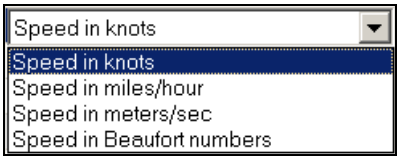


- **Text**: Numeric value is shown in each grid point

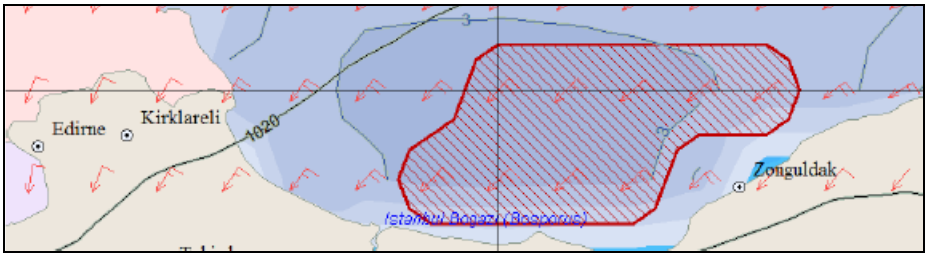


Weather parameters are displayed according to the legend in the **Weather Legend** window. Some presentation modes are not available for some parameters (e.g. the **Cont** mode cannot be applied to wind and precipitation). All available modes can be switched on simultaneously.

3) Change measurement units from the drop-down list which appears in the **Measurement Units** column after double clicking of left mouse button or pressing **Enter**.



4) Switch on/off Alarms (see chapter VII.8.4), which are displayed as red masked areas where weather parameters exceed defined alarms thresholds.



8.3 Time Series

In the **Weather Time Series** panel you can see the evolution of chosen weather parameters for a single point or for a defined route within your weather domain. Enter the **Weather Time Series** panel by the toolbar icon or go to **Weather > Weather Time Series** menu command.

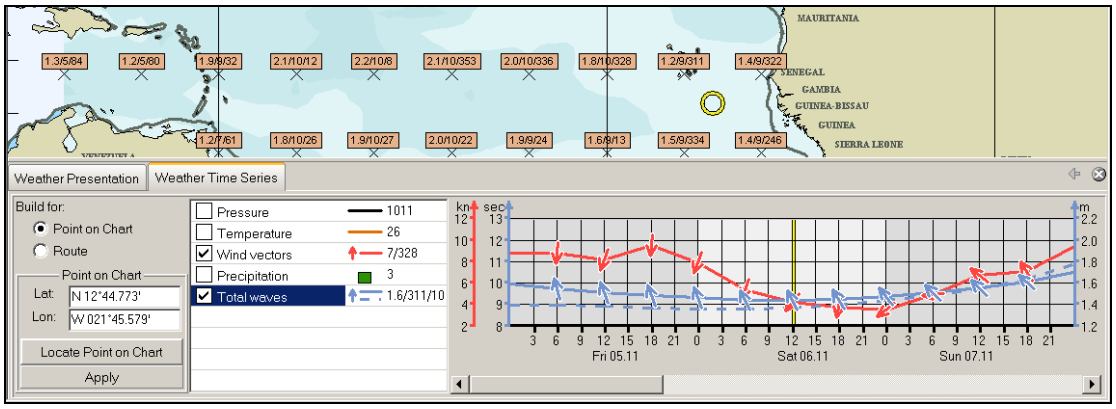
➢ Time series for a point

Showing a time series for a given point:

1) Choose the **Point on Chart** option In the **Weather Time Series** panel

2) Press the **Locate Point on Chart** button and mark a point on the chart. A yellow ring will appear.

3) Choose desired parameters in the list and they will appear in the graphical window. When moving the cursor in this window, the actual parameter value will be given together with the legend. The actual time from the **Weather Presentation** panel is indicated by a yellow vertical line.



You can step forward and backward in time inspecting simultaneously both chart and time series presentation by holding down the Ctrl key and an arrow key:

- <Ctrl> + <right arrow> : one time step backward
- <Ctrl> + <left arrow> : one time step forward

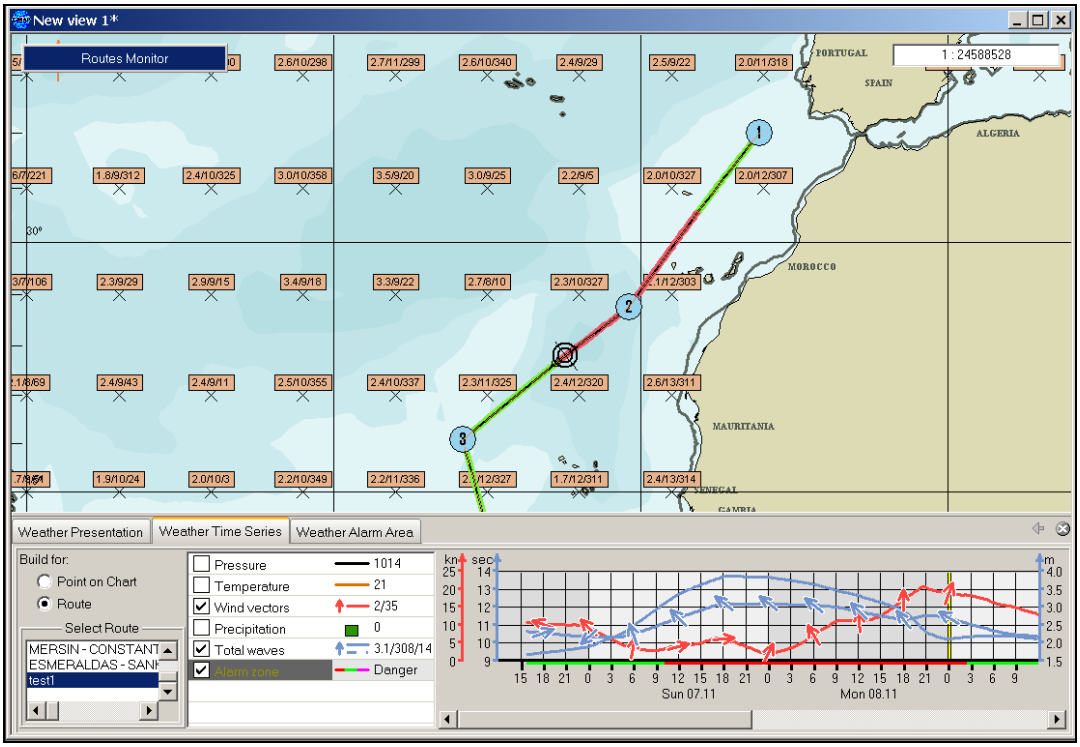
➢ **Time series along a route**

Showing a time series along a given route:

1) Choose the **Route** option In the **Weather Time Series** panel.

2) Select one of the available routes already made in the Route Planning tool (see chapter VII.VOYAGE PLANNING).

3) Choose desired parameters in the list and they will appear in the graphical window. Their value along the route will be seen in the **Time Series** window. The current time from the **Weather Presentation** panel is indicated by a yellow vertical line. If alarms are defined (see chapter VII.8.4), a green line will represent the part of the route where weather parameters do not exceed and a red line will represent the part of the route where weather parameters exceed defined alarm thresholds. The alarm will be shown on the route automatically, while in the **Weather Time Series** panel you can switch on/off the Alarm zone. A green or red horizontal line will indicate the time step below or above thresholds. Dragging the vessel symbol forward and backward along the route will change the time step of the weather forecast display.



Warning!

Please note that this function requires weather forecast covering your route in both space and time.

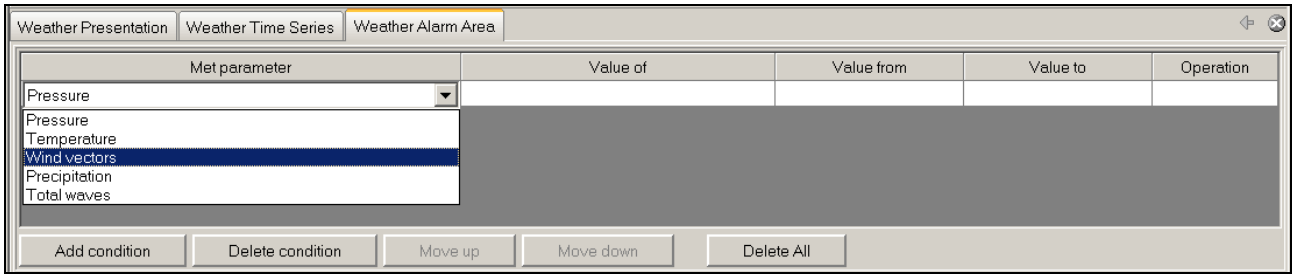
8.4 Alarms

In the **Weather Alarm Area** panel you can manage alarm thresholds for wind, waves, etc. To open the panel, click on the toolbar icon or go to the **Weather > Alarm Area Settings** menu command.

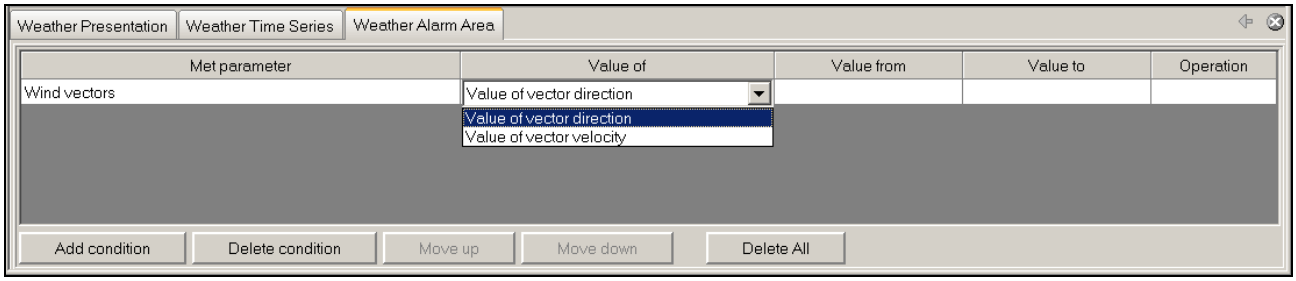
How to define an alarm:

1) Click on the **Add condition** button to create a new line in the table.

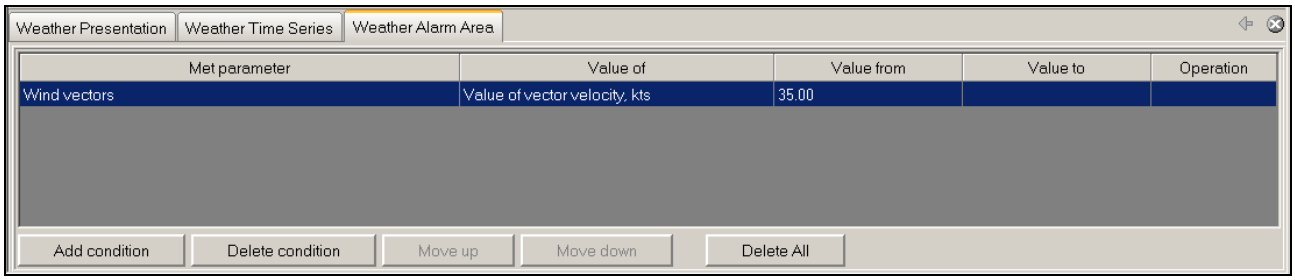
2) Double-click on the **Met Parameter** column of this line to open the drop-down list with weather parameters. Choose a parameter from the drop-down list.



3) Double-click on the **Value of** column of this line to open the drop-down list with attributes for the chosen parameter. Choose an attribute from the drop-down list.

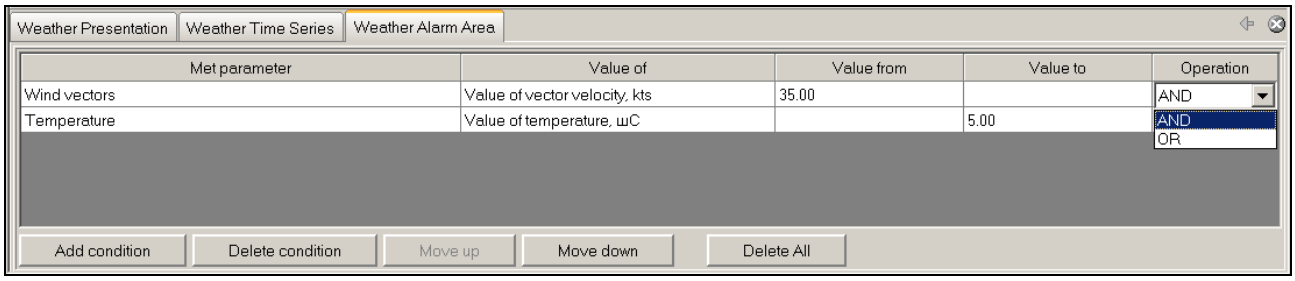


4) Double-click on the **Value from** edit box and enter a value to the box if you want to define the lower limit; double-click on the **Value to** edit box and enter a value to the box if you want to define the upper limit.



5) Repeat the actions for other alarms if necessary. Set **Operation** if you have two or more alarms defined. **Operation** might be AND or OR:

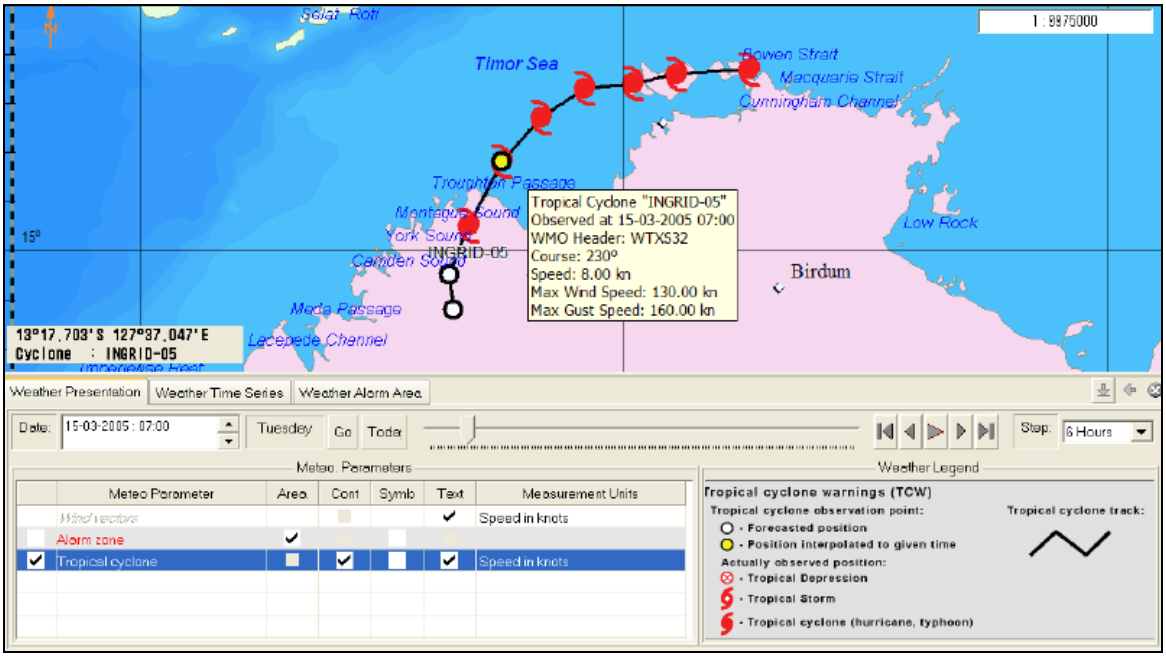
- **AND** – alarm will be made for areas where both conditions are true
- **OR** – alarm will be made for areas where at least one of the conditionsis true



8.5 Tropical Cyclone Warnings (TCW)

For more information about downloading Tropical Cyclone Warnings, see chapter VII. 8.1.

Presentation of Tropical Cyclone Warnings (issued by World Meteorological Organization, WMO) is activated by switching the **Tropical Cyclone** parameter in the **Weather Presentation** panel or by choosing the toolbar icon.



Observations and prognoses have different symbols according to the legend. Moving the cursor over a point, you can inspect details for wind speed and wind gust.

If a route is passing close to an already downloaded cyclone warning, an alarm will be indicated with a purple line (both in the chart and in time series). The alarm zone around the cyclone has a form of a broadening from 100 NM to 500 NM lanes built on the cyclone track, starting from the last known observation ("never cross the track" rule plus error area on both side of track depending on the validity of prediction: 0(obs): 50NM, 24h: 100, 48h: 150, 72h: 200, 96-above: 250NM).

The alarm zone is applied to the route part starting from the last observation time:

1) For the route's part preceding the last observation time no alarm is issued

2) If the route crosses the above mentioned alarm zone after the last observation time, then those legs are considered dangerous regardless of its schedule times

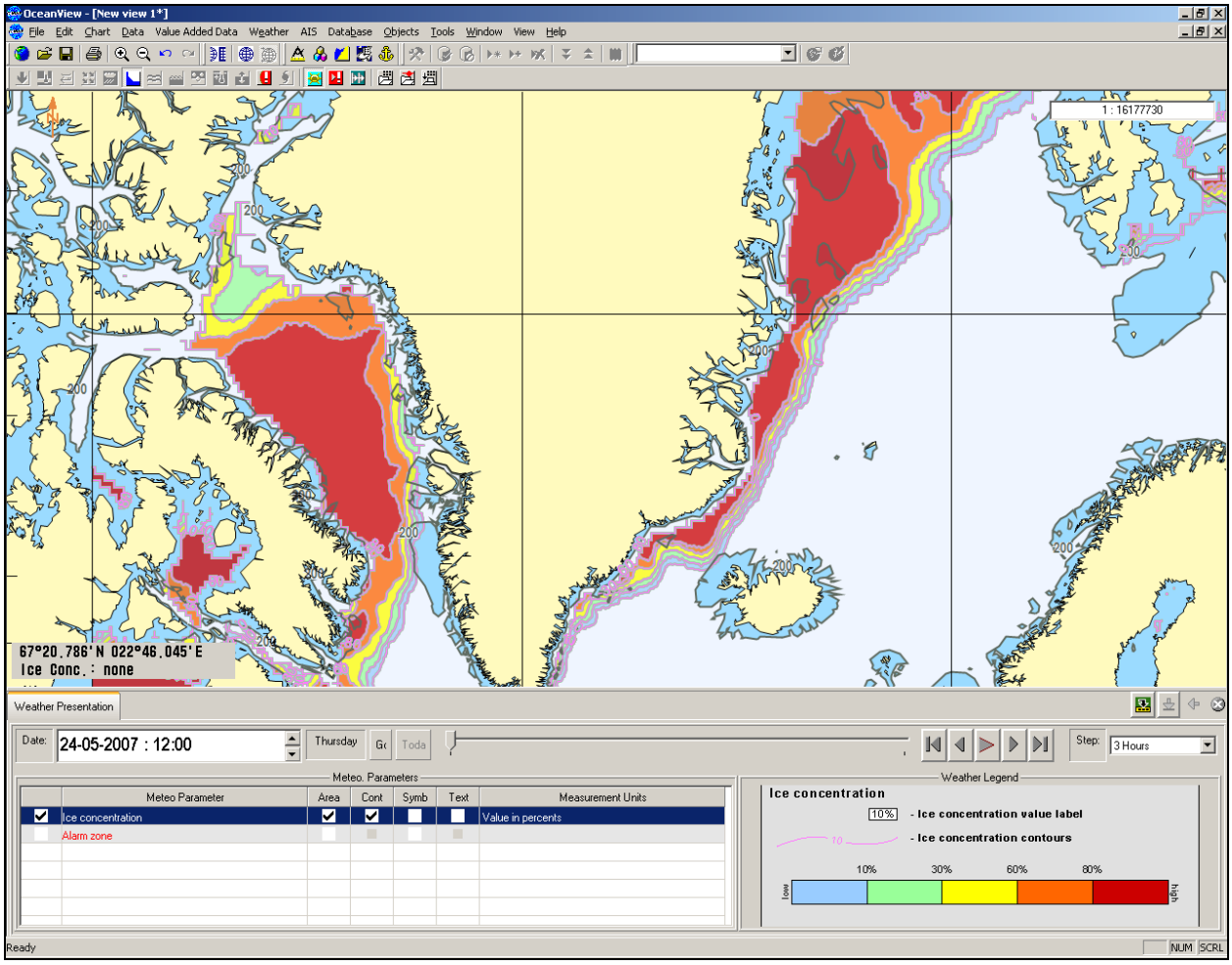
Warning!

Alarm concerning Tropical Cyclones close to route: If a route is passing close to an already downloaded cyclone warning, an alarm will be indicated with a purple line. This is based on the above described calculation regarding distance from cyclone track. When in cyclone areas, we always recommend you to update cyclone files regularly and inspect them manually. For detailed information you are requested to ask your nearest WMO Cyclone Warning Center.

8.6 Ice Coverage

For downloading of Ice Coverage information, see article 8.1, the Download Ice Concentration section.

The presentation of the Ice Concentration / Ice Coverage follows the guidelines issued by the World Meteorological Organization (see color legend in the figure below). The Ice Concentration is activated in the **Weather Presentation** panel or by choosing the **Ice Concentration** icon:

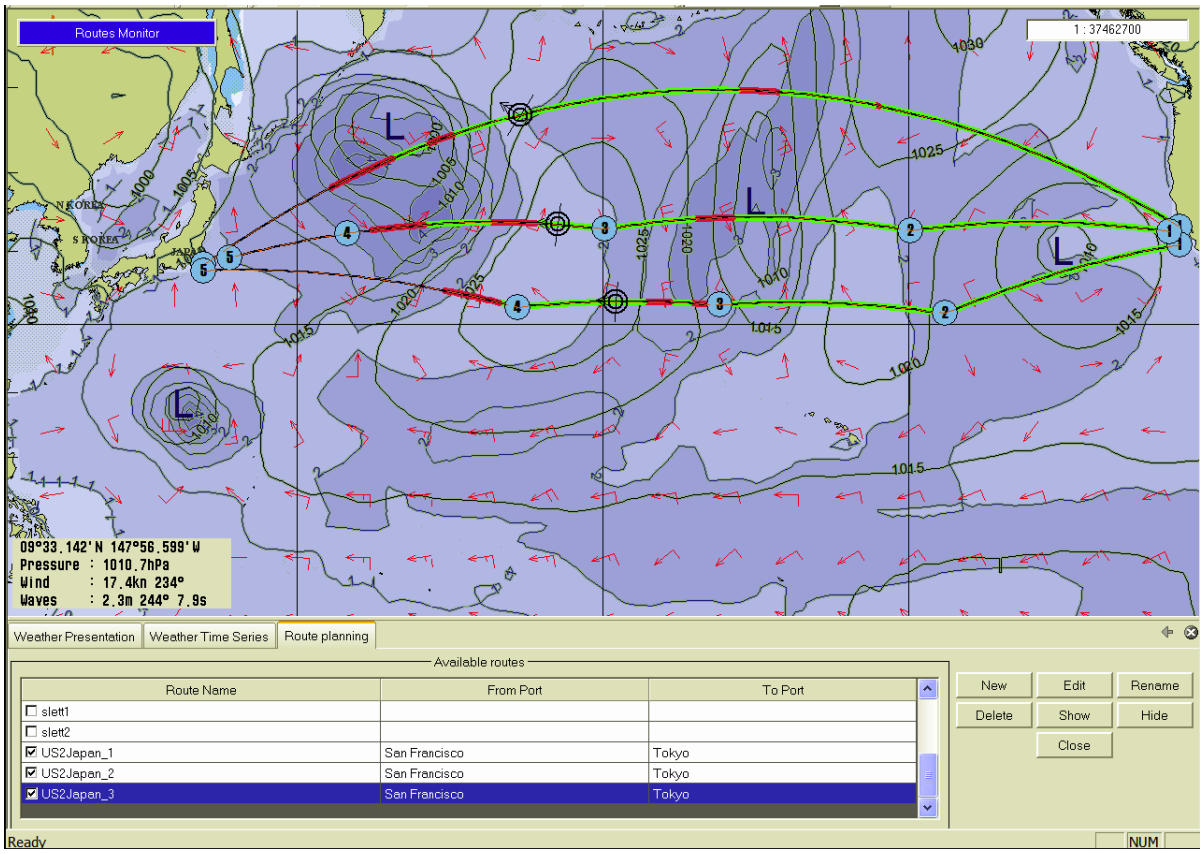


Warning! _____

The Ice Coverage is an observation based on yesterday's satellite observation of the ice edge. This should be used as a guideline for today's ice coverage. It should under no circumstances be used for navigation close to or in the ice.

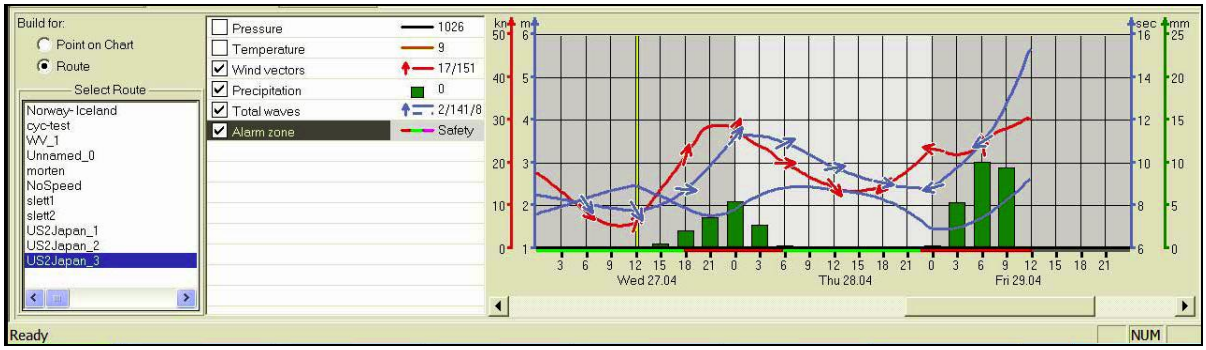
To toggle the ice, you should first move the time stamp to **yesterday's date at 12:00 UTC**. This is due to all yesterday's satellite information has to be integrated into *one* time stamp.

8.7 Route Comparison



By testing alternative routes, one can easily pick the best route depending on the user defined weather alarms. When using the drag and drop functionality of vessel symbols on routes, the program recalculates the time and redraws the weather and positions of other vessels. If you have some number of alternative routes, this feature enables a good overview. Weather information is available for ten days ahead. In the **Edit** route mode one can print a word document of the route including arrival and departure to/from all waypoints.

Activating the **Weather Time Series** panel gives all weather details along one route:



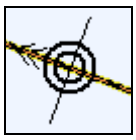
8.8 Ship Response: Simple Harmonic Motion (Roll, Pitch, and Heave)

The ship response element of OceanView™ is related to the sea state conditions during the voyage of the vessel along a planned route. It helps you get information about swell and total waves, as well as information on the roll, pitch, and heave. Using the ship response function of OceanView™, you can estimate you route in terms of its safety for your vessel.

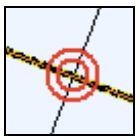
To be able to inspect ship position on the route, you need to have weather forecast data for areas the route goes through. The route and weather forecast should also coincide in terms of time: if you do not have weather forecast data for the time scheduled for the route, you will not be able to use the ship response functionality of the OceanView™.

When the times of the route and of the weather forecast overlap, a ship symbol appears on the route in the position estimated for the time point set in the **Weather Presentation** panel (for more details about the **Weather Presentation** panel see chapter VII.8.2) using the route schedule data.

If you have more than one route whose times coincide with the set weather forecast time, ship symbols appear on each route. To check a specified ship position, you need to make the ship active. To do so, click on the ship symbol with the left mouse button. The symbol is highlighted with red and in the **Inspect Ship Position** information panel (**Weather > Ship Response > Inspect Ship Position**) data for the selected ship are displayed.



Inactive Ship



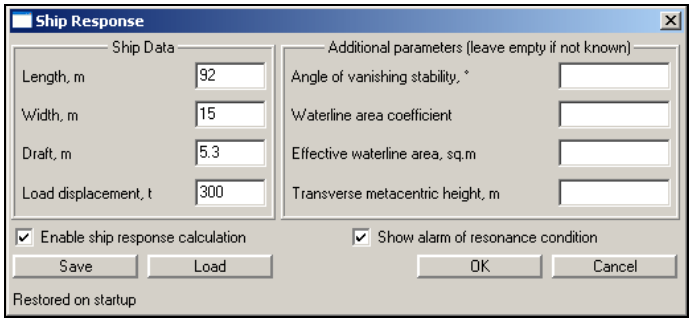
Active Ship

➢ **To inspect ship position on the route, do the following:**

1. Load a created route or create a new one (see chapters VII.2.0 and VII.3.0).
2. Download weather data for the geographic area where the route goes (see chapter VII.8.0).
3. Make sure that the route is covered with weather forecast data both in terms of geographic area and in terms of time.
4. Set ship parameters in the **Ship Response** dialog window (**Weather > Ship Response > Ship Response Options**).
5. Set the time of weather forecast for the route in the **Weather Presentation** functional panel (the forecast time should fall into the scheduled route time). A ship symbol will appear on the route in the position calculated using the route schedule and the estimated ship speed.
6. If you have more than one route satisfying the time and area conditions plotted on the chart, a ship symbol will appear on each route in corresponding positions. Select the ship symbol on the route you want to check.
7. Go to **Weather > Ship Response > Inspect Ship Position** to open the **Inspect Ship Position** information panel, where the data describing the position of the ship along the route in terms of weather conditions are presented.
8. To change the time of the ship position estimation, either move the time slider in the **Weather Presentation** panel or move the ship symbol along the route (press the left mouse button on the symbol and move the mouse holding the button). You can only change the time by the step set in the **Step** field in the **Weather Presentation** panel.

➢ Ship Parameters

After having planned your route, you should specify parameters of the ship. Go to **Weather > Ship Response > Ship Response Options** to open the **Ship Response** window:



Ship Data:

- **Length –** Length at waterline (LWL) of the vessel, m. LWL is the length of the vessel as measured from the bow ending of the waterline to the stern ending.
- **Width –** Beam (the widest width) of the vessel, m.
- **Draft –** Draft of the vessel, m.
- **Displacement –** Displacement of the vessel, tons.

Additional parameters (if known):

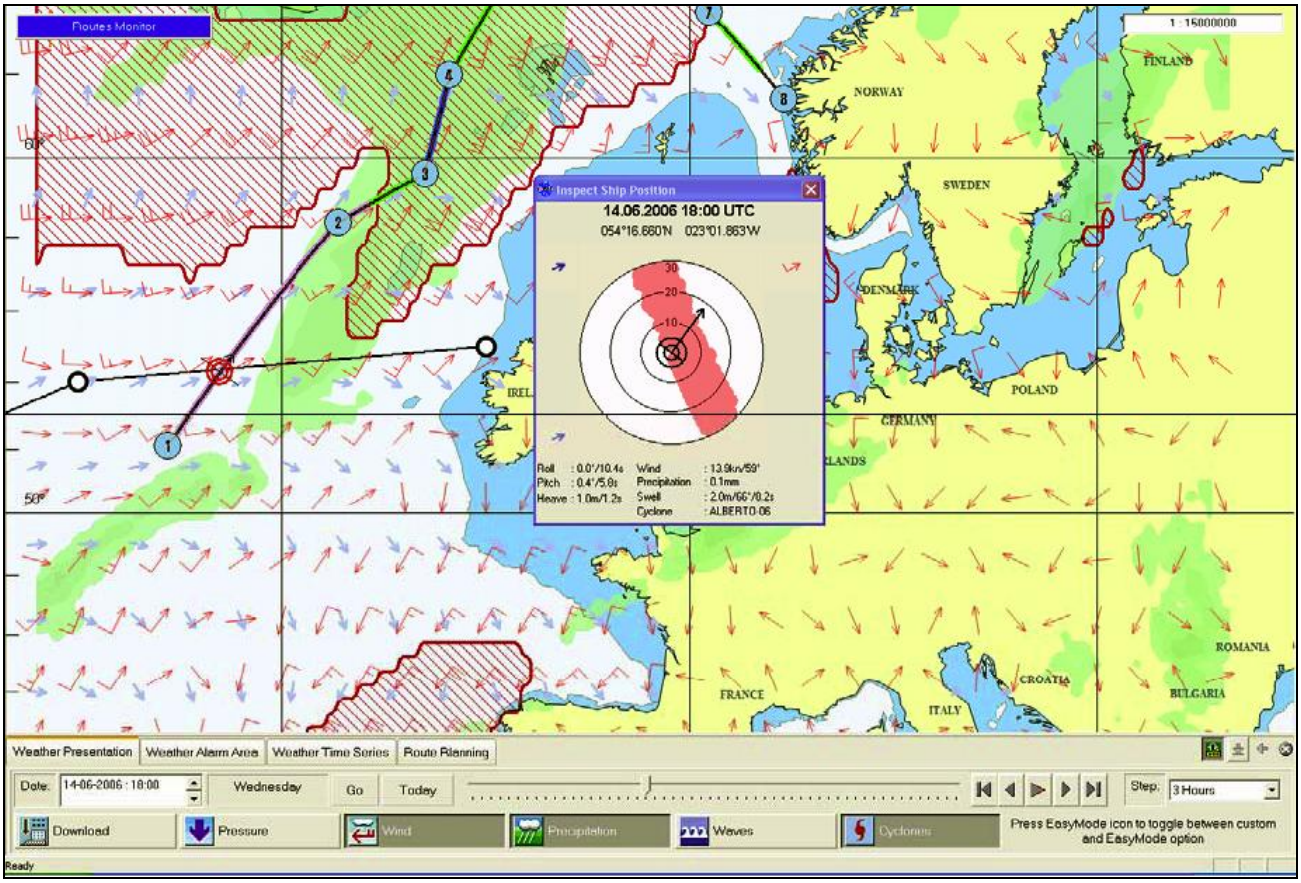
- **Angle of vanishing stability –** Sets angle of vanishing stability (AVS) of the vessel, degrees. AVS is the angle the boat can heel and still right itself.
- **Waterline area coefficient –** Waterline area coefficient, non-dimensional quantity.
- **Effective waterline area –** Effective waterline area, m².
- **Transverse metacentric height –** Transverse metacentric height of the vessel, m. Transverse metacentric height is the vertical separation of the center of gravity and the transverse metacenter.

Remark_____

*Save the ship dataset (**Save**) and you will be able to load (**Load**) this information in future.*

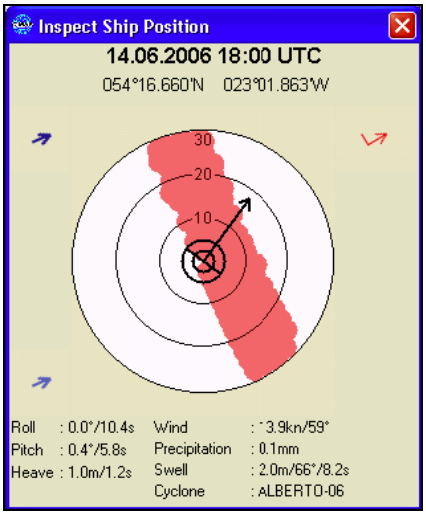
➢ Inspect the Ship Position

Now, go to **Weather >□ Ship Response >□ Inspect Ship Position** to obtain the information related to the sea state and the ship response by each time-step of a planned route. The **Inspect Ship Position** window will appear. After that, click on the desired ship symbol along a plotted route. OceanView™ will mark the position of your vessel with red color. This is shown in the figure below informing the user about the sea state and response for this specific position (Note that the route is crossing the path of the ALBERTO-06 cyclone):



The **Inspect Ship Position** window can be divided into two parts: the informational part and the polar diagram part.

In the informational part you can see the following data:



- Date and time of the ship position – in the upper part of the panel.
- Coordinates of the ship position – in the upper part of the panel.
- Roll, pitch and heave values (estimated using the swell and total waves data) – in the lower part, the left column.
- Weather parameters (values of those weather parameters are displayed that are checked in the **Weather Presentation** panel in the **Meteo. Parameters** table).

- You can also see presentation of such weather parameters as total sea, swell and wind as designated symbols. The parameters are represented as colored arrows in three corners of the panel:
  - The dark blue arrow in the upper left corner represents the direction and period of total sea.
  - The blue arrow in the lower left corner represents the direction and the period of the swell.
  - The red arrow in the upper right corner represents the direction and velocity of the wind.

  To read values of the weather parameters represented by the arrows, see corresponding weather legends in the **Weather Presentation** panel (to open a weather legend relating to a weather parameter, select the weather parameter in the **Meteo. Parameters** table and the corresponding weather legend will be displayed in the **Weather Legend** part of the panel). For more details about the **Weather Presentation** panel, see chapter VII.8.2.

The polar diagram gives you information about the speed and course of the vessel in a specified position on the route as well as about the speed and course values combinations that can cause danger of a sudden increase in roll amplitude (and in a worst case capsizing).

The diagram consists of the following elements:

- Concentric circular axes representing vessel speed.
- The vessel symbol plotted in the middle of the diagram.
- The vessel speed and direction vector (the arrow pointing outward from the center of the vessel symbol) shows the direction and velocity of the vessel. The direction (bearing) is the angle between the imaginary vertical axis of the diagram (the axis pointing to the North) and the vector of the vessel speed and direction measured horizontally from North to whatever direction you are pointing. The vessel speed is defined with the help of concentric axes representing speed (the value of the speed lies in the point where the vector ends).
- The **Red Shadow** zone covers all points representing combination of speed and course at which there is a danger of having a sudden increase in *roll amplitude* (and in a worst case capsizing) of the vessel (if the vessel speed and direction vector end lies within the red shadow zone, the vessel is in danger of capsizing). The conclusion is made from comparison of the vessel **natural roll period** with the **relative wave period**: *if the difference between values is **less than 30%** the resonance can occur.* This combination can in some cases be dangerous. An alarm for a given threshold of roll amplitude can be made in the **Alarm** panel.

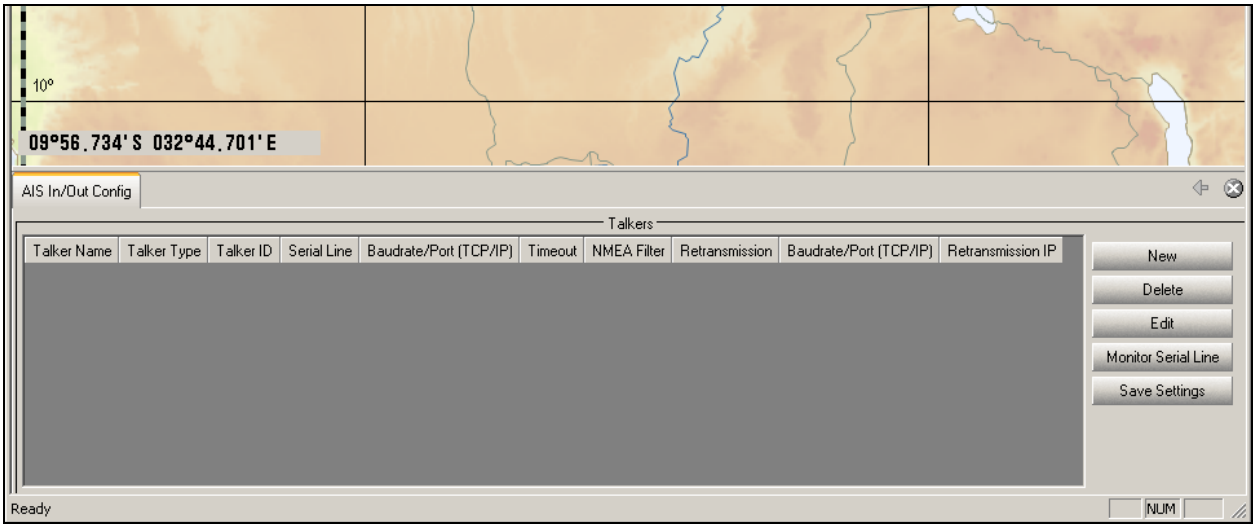
9.0 AIS

OceanView™ now supports the Automatic Identification System functionality. The OceanView™ provides the possibility to receive and parse AIS messages from AIS talkers connected to the computer and registered in OceanView™.

The OceanView™ AIS functionality is not activated when you start the program. To activate and initialize AIS, go to the **AIS** menu item and check the **AIS** entry. After checking the **AIS** entry, other entries in the main menu item (**AIS Monitor** and **AIS In/Out Config**) will be activated.

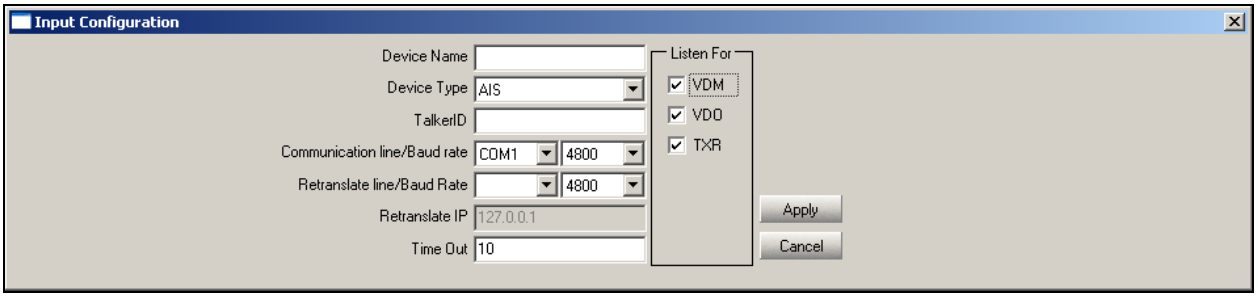
9.1 AIS Configuration

To receive AIS messages, you need to configure the OceanView™ AIS functionality. Go to **AIS > AIS In/Out Config**, the **AIS In/Out Config** functional panel will open.



Add AIS talkers connected to your computer to the table of talkers. To add a talker:

1. Press **New**, the **Input Configuration** window will open.



2. Enter the talker data:

   - **Device name** – name of the transmitting device.
   - **Device Type** – choose the type of the transmitting device from the drop-down list.
   - **TalkerID** – talker identification, reserved for future use.
   - **Communication line/Baud rate** – select the communication channel and the channel baud rate from the corresponding drop-down lists.

- **Retranslate line/Baud rate** – select the retranslation communication channel and the channel baud rate from the corresponding drop-down lists. Use the function if you want to retranslate received AIS messages to other computers connected with your computer through a network.
- **Retranslate IP** – IP of the computer to which the received data should be retranslated.
- **Time Out** – reserved for future use.

3. Select the messages types to listen for: only messages in the selected format will be parsed and displayed. To select a message type, check the corresponding check box; to unselect a message type, clear the corresponding check box.
4. Press **Apply** to save the talker or **Cancel** to cancel the operation.
5. The **Input Configuration** window is closed and the new talker is added to the **Talkers** table of the **AIS In/Out Config** functional panel.
6. Press **Save Settings** to save the new talker and its settings.

After a new talker is added to the **Talkers** table, you can edit the talker information or delete the talker.

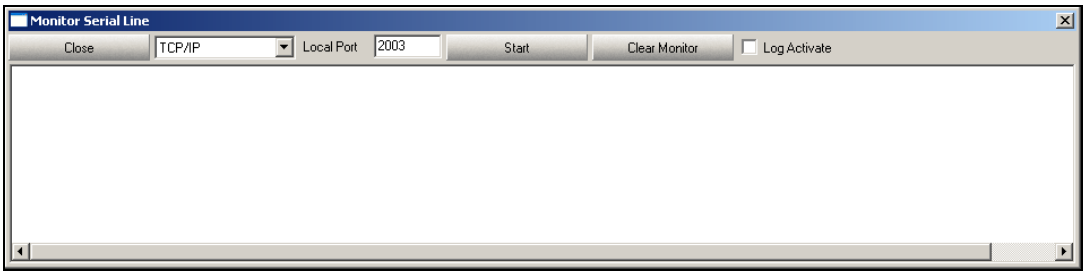
To edit talker information:

1. Select a talker in the **Talkers** table.
2. Press **Edit** to open the **Input Configuration** window where you can change the talker information.
3. After you have changed the talker information, press **Apply** to save the changes or **Cancel** to cancel the changes.
4. In the **AIS In/Out Config** functional panel, press **Save Settings** for the new talker settings to take effect.

To delete a talker from the table:

1. Select a talker in the **Talkers** table.
2. Press **Delete**.

From the **AIS In/Out Config** functional panel, you can open the **Monitor Serial Line** window where you can see if the communication channel and the channel baud rate are configured correctly and the system receives AIS messages over the specified channel. To open the **Monitor Serial Line** window, press the **Monitor Serial Line** button.

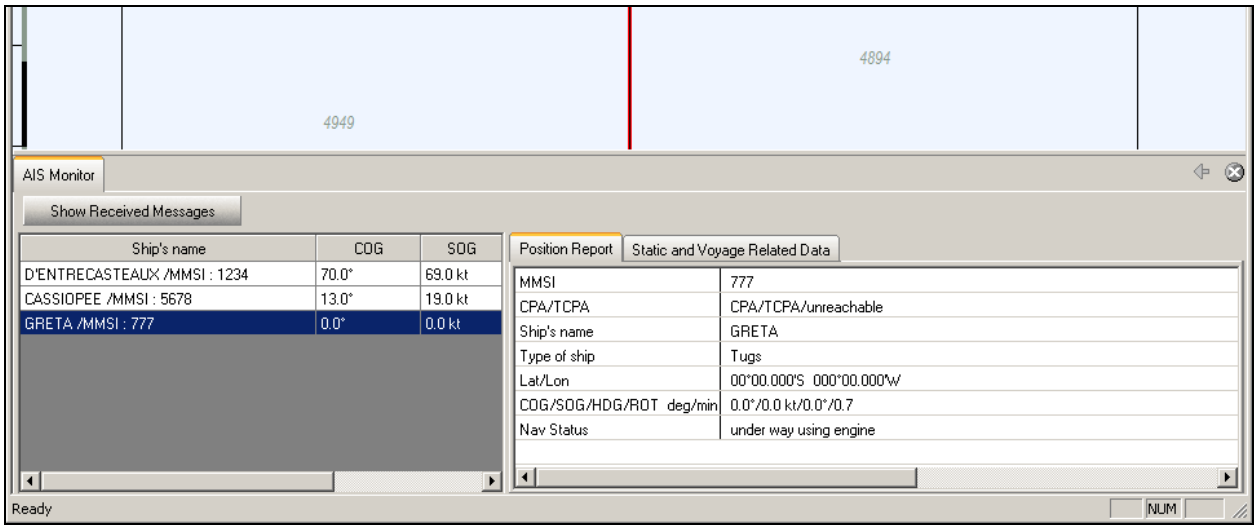


To start communication channel monitoring:

1. Select the communication channel from the drop-down list.
2. Set the local port number.
3. If messages are being received they are displayed in the window (what you see is AIS messages in the official NMEA format).
4. Check the **Log Activate** check box if you want that all received messages were written in a log file (find the log file in C:\Program Files\C-Map Professional SDK Runtime\MonitorSerialLine.log).
5. Press **Start**.
6. To clear the window, press **Clear Monitor**.
7. To close the **Monitor Serial Line** window, press **Close**.

9.2 AIS Monitor

Data received through AIS are displayed in the **AIS Monitor** functional panel. To open the panel, go to **AIS > AIS Monitor**.



The **AIS Monitor** panel contains two windows: the window displaying the table of targets the communication is established with and the window displaying detailed information about the targets.

The table of targets in contact consists of three columns:

- **Ship's name** – displays the name of the target (if the target static information was received) and the target's MMSI.
- **COG** – the target's course over ground in degrees.
- **SOG** – the target's speed over ground in knots.

To see detailed information about a specified target, select the target in the targets in contact table. The information is displayed in two tabs of the right window.

The **Position Report** tab displays the following information:

- **MMSI** – MMSI identification of the AIS transponder
- **CPA/TCPA** – closest point of approach and time to closest point of approach
- **Ship's name** – the name of the target (only available if the target static information is received)
- **Type of ship** – the type of the target (only available if the target static information is received)
- **Lat/Lon** – position of the target (latitude/longitude in degrees and minutes)
- **COG** – course over ground in degrees
- **SOG** – speed over ground in knots
- **HDG** – heading in degrees
- **ROT** – rate of turn in degrees per minute
- **Nav Status** – navigational status of the target

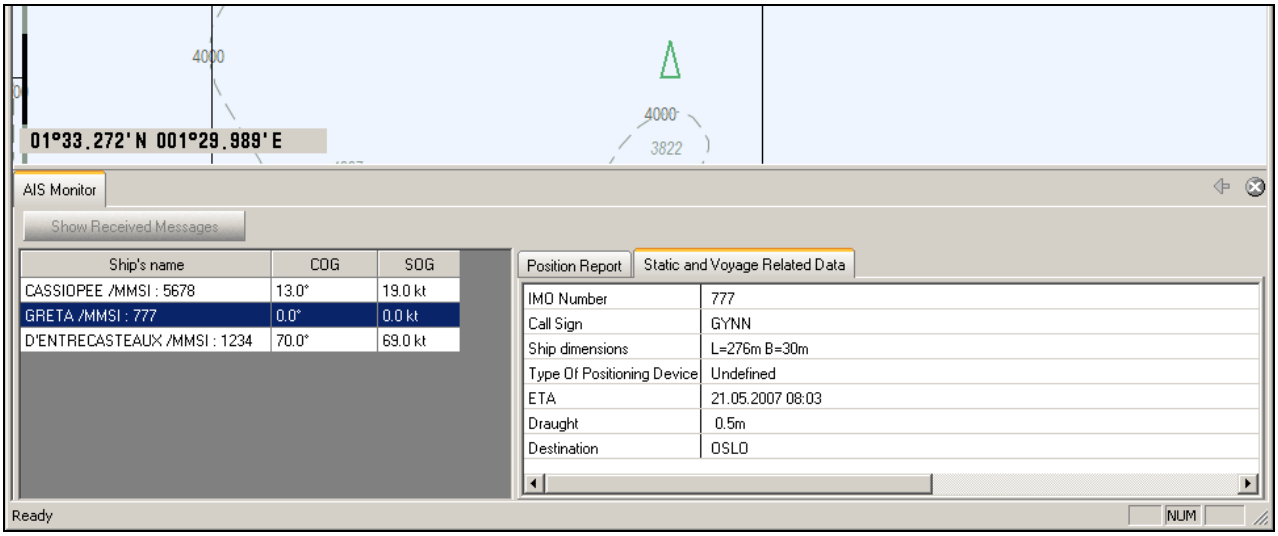
The **Static and Voyage Related Data** tab displays the following information:

- **IMO Number** – the IMO assigned target number
- **Call Sign** – a unique designation for the transmitting station
- **Ship dimensions** – length and width of the target
- **Type Of Positioning Device** – the type of the device defining the target position
- **ETA** – estimated time of arrival
- **Draught** – draught of the target
- **Destination** – destination of the target
- **Messages** – the last received message (if no messages were received, the field is not displayed)

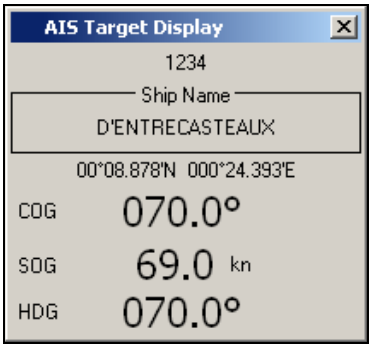
To check if any messages were received from a target, select the target in the targets in contact table and, if the **Show Received Messages** button becomes active, it indicates that some message was received. To view received messages, press **Show Received Messages**. The last received message is displayed in the **Static and Voyage Related Data** panel, in the **Messages** field.

9.3 Target Display

After the communication with a target is established and OceanView™ starts receiving AIS messages, the target is displayed on the chart in the position with coordinates stated in the messages. Double-click on the target name in the targets in contact table to scroll the chart so that the target symbol is in the view.



After you double-click on a target's name in the targets in contact table or click with the left mouse button on the target symbol on the chart, the **AIS Target** panel is displayed in the upper left corner of the chart window. The panel contains general information about the specified target: MMSI number, name, latitude / longitude, COG (course over ground), SOG (speed over ground), HDG (heading).



In case the communication with a target is interrupted, the target symbol changes to and is eventually removed from the display as well as the disconnected target entry is removed from the targets in contact table.

10.0 Value Added Data

The C–Map chart database now includes value added data, the data that are not related directly to navigation but can be of use for route planning and other navigational operations. These data include information about tides, the Global Maritime Distress and Safety System (GMDSS) stations and stations' coverage, Marine Search and Rescue (SAR) regions and co-ordination centers, and improved background and overview charts.

The data are contained in the C–Map main database as a number of supplementary sections. You can add each of the value added data sections to or remove them from the chart view.

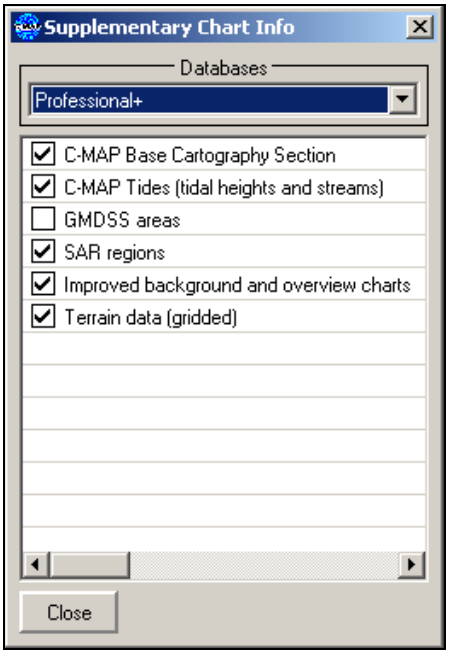
1. Go to **Value Added Data > Show/Hide Value Added Data** to open the **Supplementary Chart Info** window.

2. In the **Supplementary Chart Info** window, choose the database whose value added data sections display you want to configure from the drop-down list of available databases.

3. Check the value added data sections that you want to be displayed in the chart view. The data are displayed immediately after the check box on the left of the data section is checked.

4. To remove a value added data section from the view, clear the check box corresponding to the data section.

5. To close the **Supplementary Chart Info** window, press **Close** or **Esc**.



To configure the display of the GMDSS Master Plan and the SAR Global Plan sections, OceanView™ provides additional functionality that can be accessed from the **Value Added Data** main menu entry. For more details about the GMDSS Master Plan value added data section, see chapter VII.11.0; and for more details about the SAR Global Plan sections, see chapter VII.12.0.

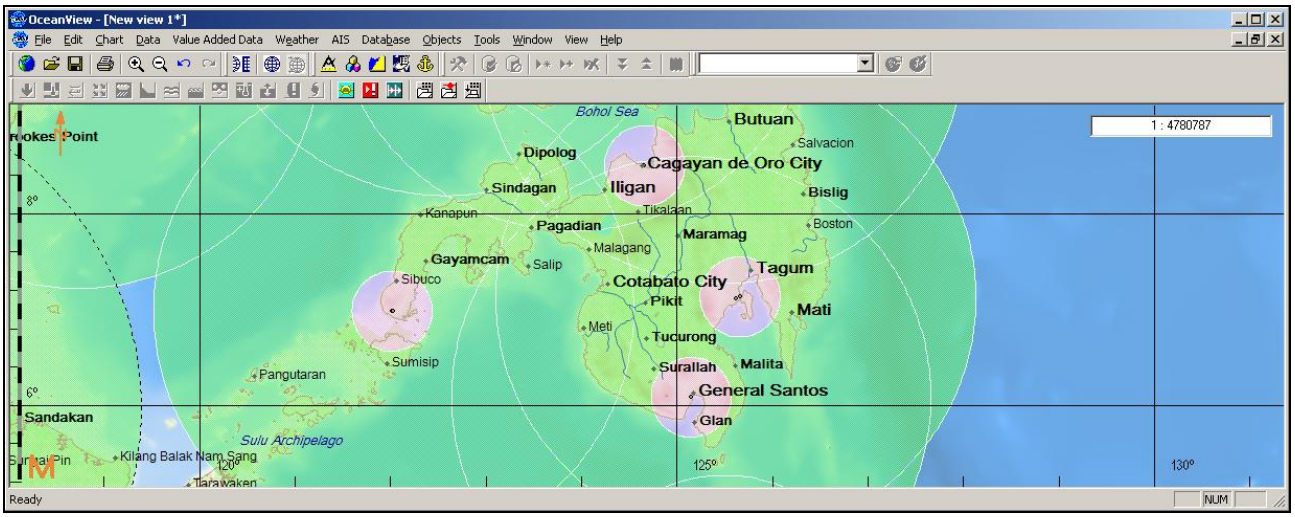
11.0 GMDSS Master Plan

Remark_____

Previously, in order to get access to the GMDSS Master Plan you had to purchase a separate license and apply it. Current CM93/3 chart database version includes GMDSS Master Plan as an additional dataset and to access the data you do not need to obtain separate license for them.

To display the GMDSS Master Plan, go to **Value Added Data > Show GMDSS**.

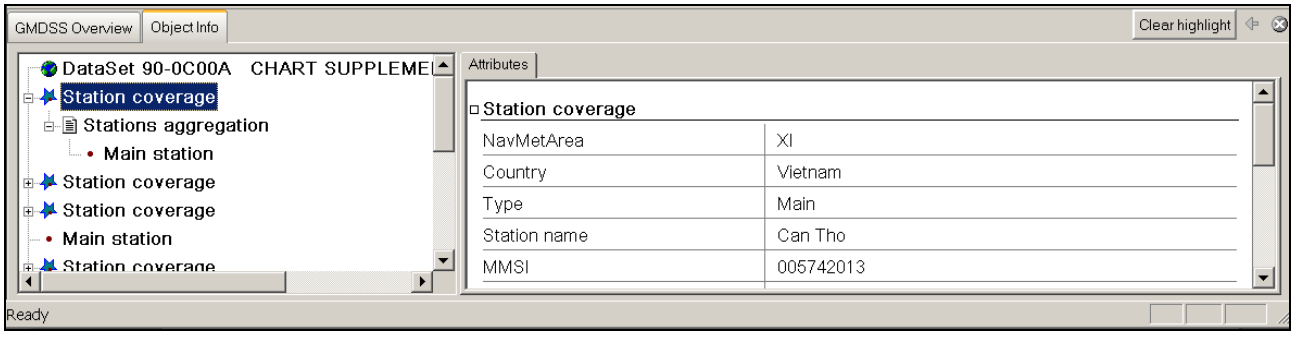
The GMDSS stations coverage will be displayed in the chart window.



A1 areas (VHF stations coverage) are shown with violet color.

A2 areas (MF stations coverage) are shown with green color.

Using the **Object info** panel (see chapter VI.5.0) you can get more information about GMDSS stations. Click with the right mouse button on a position inside a GMDSS station coverage. On the **Object info** panel select a **Station coverage** entry.



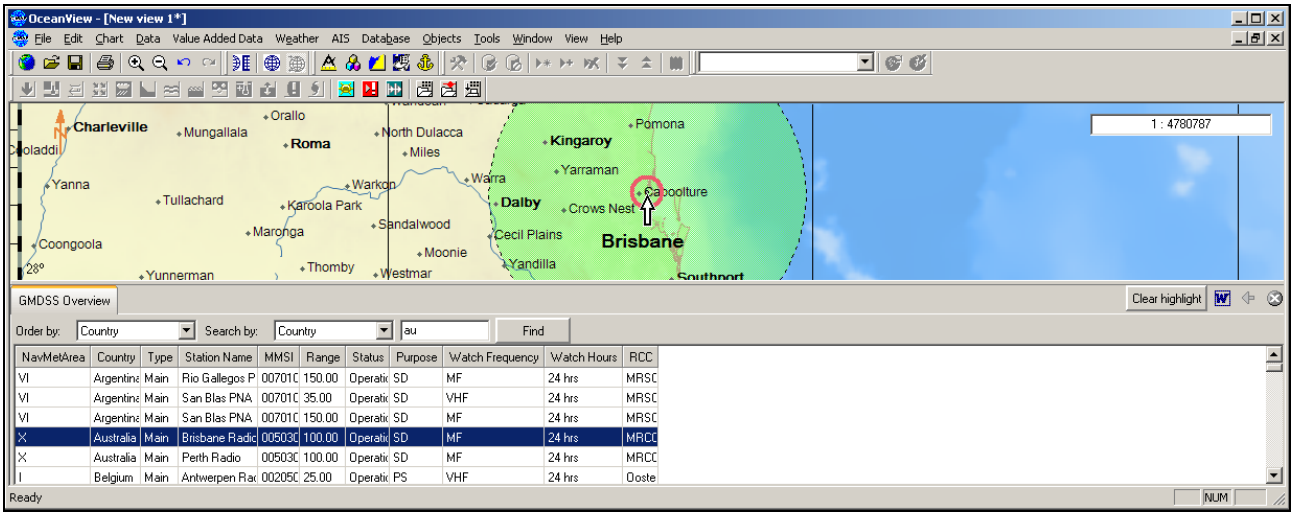
Station information is displayed in the right part of the panel. You can also highlight the station and the station coverage on the chart. To clear highlighting, press the **Clear highlight** button. Main station and all Monitor stations are accessible.

Go to **Value Added Data > GMDSS Overview Table**. The same information as in the **Object info** panel will be displayed in the **GMDSS Overview** panel but in a different format.

Double click on any cell of the table to highlight the corresponding station on the chart.

Select a required sorting order (by country, by station name, by MMSI, etc.)

In order to find a station, use Search functions of the panel.

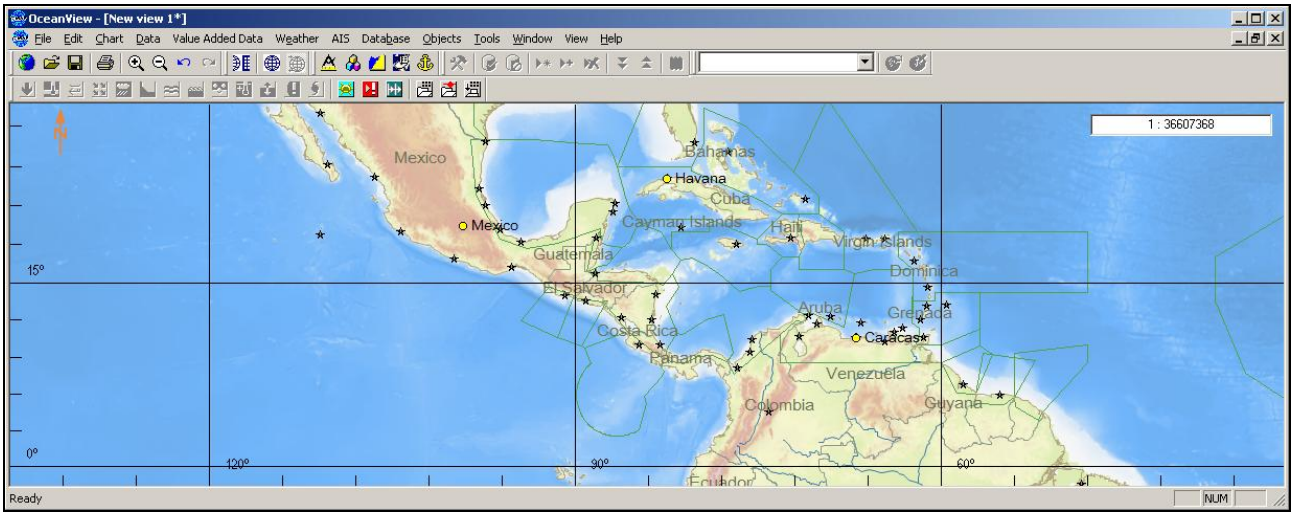


12.0 SAR Global Plan

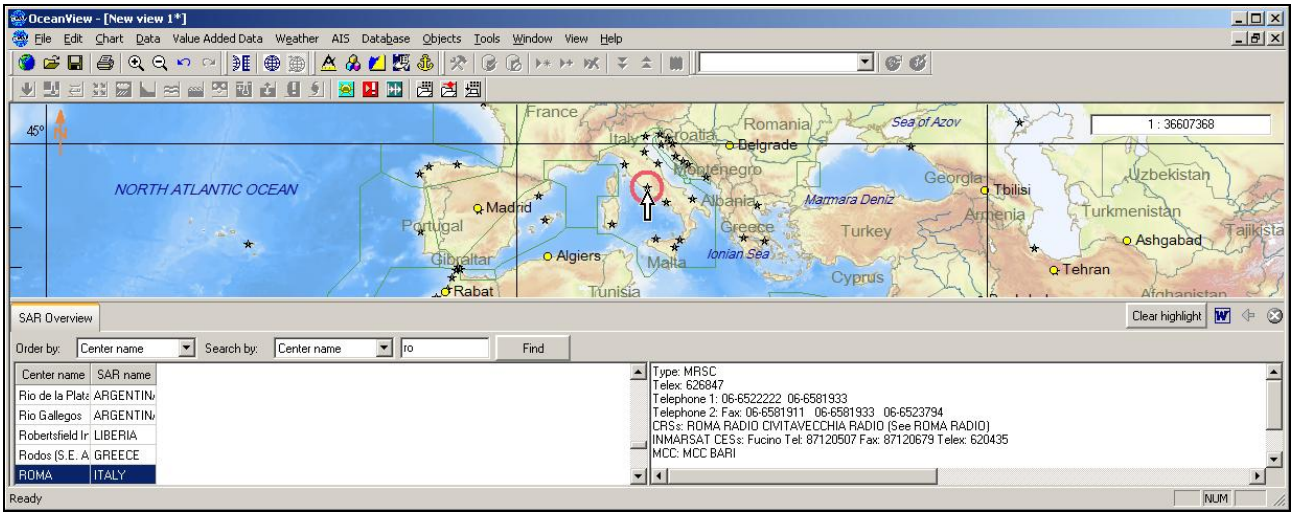
Remark_____

Previously, in order to get access to the SAR Global Plan you had to purchase a separate license and apply it. Current CM93/3 chart database version includes SAR Global Plan as an additional dataset and to access the data you do not need to obtain separate license for them.

To view the SAR Global Plan, go to **Value Added Data > Show SAR**. All SAR regions and Maritime Rescue coordination centers (RCC) will be displayed in the chart window.

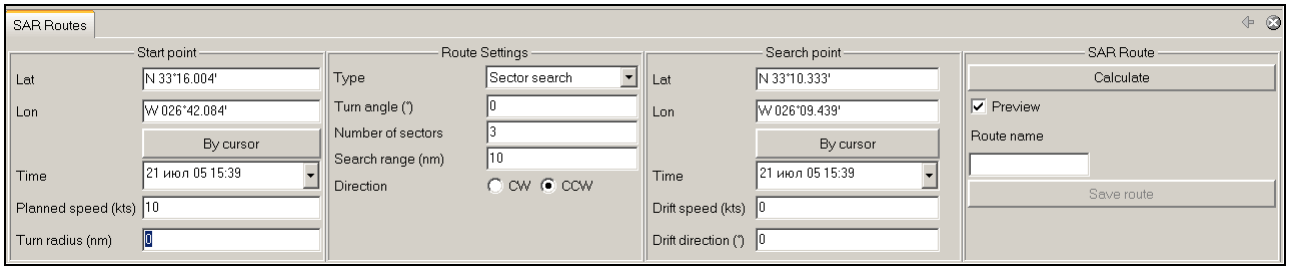


Select **Supplementary > SAR Overview Table** to see the table of RCC with supplementary information.



13.0 SAR Routes

The SAR Routes tool allows creating special routes for search and rescue of men or objects overboard.



1) Set the **Start point** of the SAR route. Type coordinates in the **Start point–Lat** and **Start point–Lon** fields or press the **Start point–By cursor** button and click on the chart.

2) Set the **Start point–Time** corresponding to the start point (start time of the SAR operation).

3) Set the **Planned speed** of the vessel during the SAR operation in knots.

4) Set the **Turn radius** of the SAR vessel. This radius should correspond to the planned speed and be expressed in nautical miles.

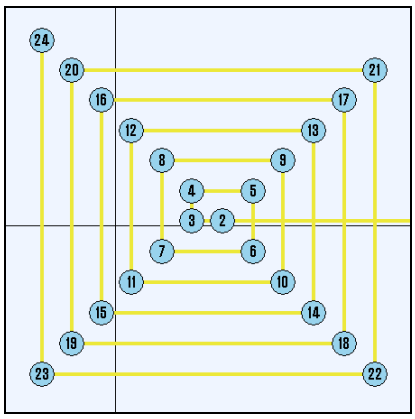
5) Set the **Search point** for the SAR route. It is the point where men or objects presumably went overboard. Type coordinates in the **Search point–Lat** and **Search point–Lon** fields or press the **Search point–By cursor** button and click on the chart.

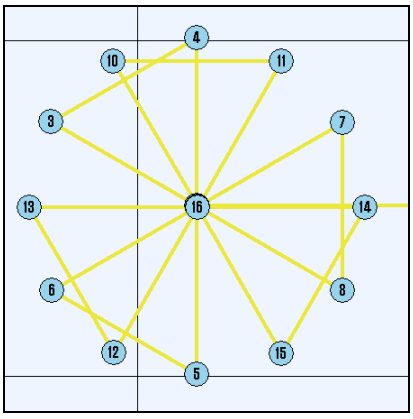
6) Set the **Search point–Time** when men or objects presumably went overboard.

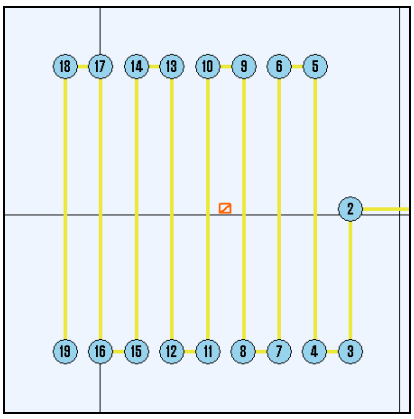
7) Set the **Drift speed** of the searched object in knots.

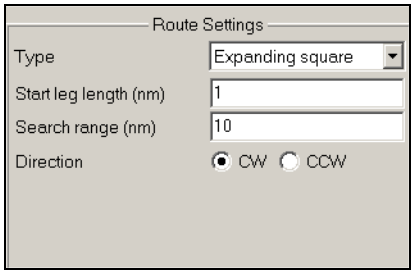
8) Set the **Drift direction** of the searched object in degrees.

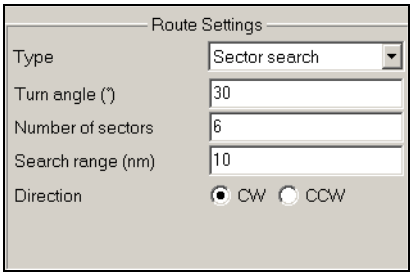
9) Select the search **Type**. The SAR Routes tool allows creating three types of routes: Expanding square, Sector search, or Parallel tracks. All available types are shown in the pictures below. For each of them it is necessary to enter a specific set of parameters.

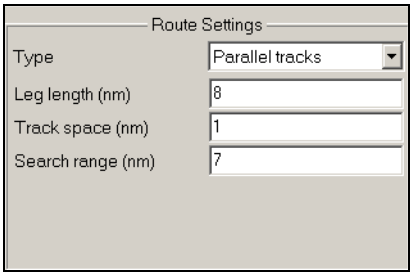












- Parameters for the Expanding square search type:

  Start leg length is the distance between waypoints 2 and 3. The distance between parallel legs is also equal to the Start leg length.

  Search range is approximately the length of the last leg (on the picture above between WP24 and WP23). Therefore it defines the number of legs and the search area.

  Direction can be clockwise (CW) or counter clockwise (CCW).

- Parameters for the Sector search type:

  Turn angle expresses the angular shift of sectors after every revolution. Each turn consists of 3 sectors by 60 degrees and 60 degrees between them.

  When **Number of sectors** is 3, SAR Route is created as one full revolution. When it is 6, SAR Route is two full revolutions.

  Search range is the distance from the Search point to outer points.

  Direction can be clockwise (CW) or counter clockwise (CCW).

- Parameters for the Parallel tracks search type:

  Leg length is the length of legs, perpendicular to the course from the Start point to WP2.

  Track space is the length of legs, parallel to the course from the Start point to WP2.

  Search range is approximately the distance from WP2 to the last leg. Therefore it defines the number of legs and the search area. The distance from the Search point to WP 2 is equal to ½ of the Search range.

10) Press the **Calculate** button. If the Preview checkbox is ticked, SAR Route will be displayed on the chart. The chart scale and position will be changed in order to display the whole route inside the chart window.

11) To save the created route click on the **Route name** field, type the route name and press the **Save route** button.

You may edit, view or export SAR Route (see chapter VII.5.0)

14.0 Ports and Terminals Guide

If a separate program and database Ports and Terminals Guide of Lloyd's Register Fairplay Ltd. is installed on your PC, OceanView™ is able to find ports stored in that database, call the program and open information about a selected port in it.

To open the Ports and Terminals Guide, go to the **Tools > Fairplay Ports Database** menu command.

If the program is not installed on your PC, an error message will appear.

If the program is installed, the **Lloyd's Register – Fairplay Ports Database** functional panel will appear.

On order to get port information:

1) Set the **Search Range** (expressed in Nautical Miles).

2) Press the **Set Search Position** button.

3) In the chart window, move the cursor to the position near location of the port you are looking for.

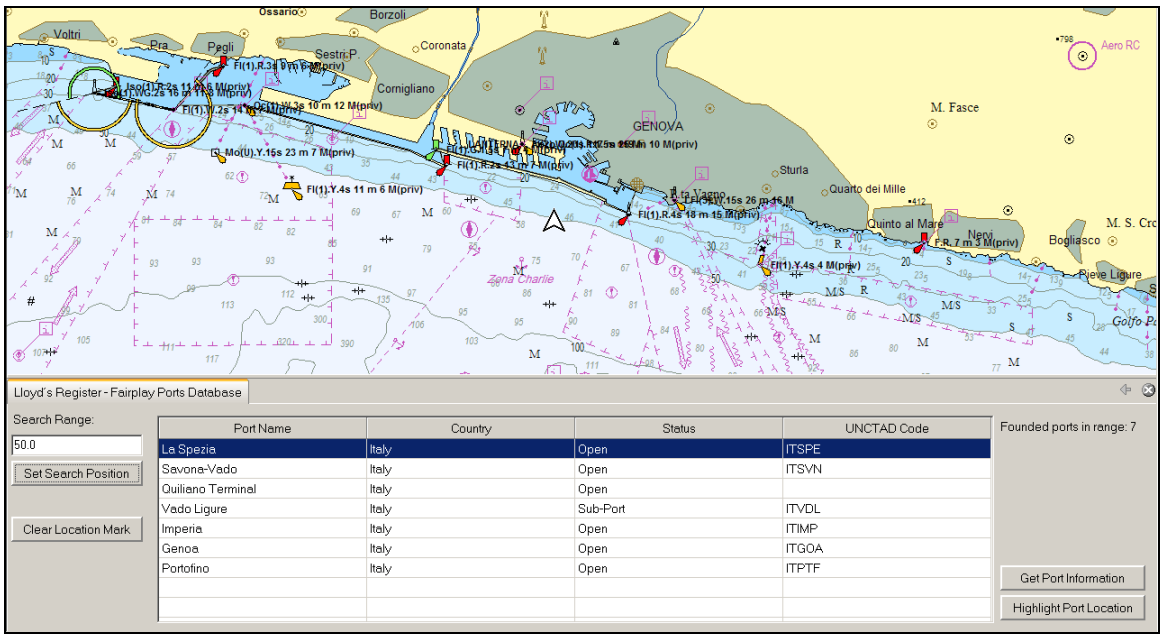
4) Press the LEFT mouse button to set the search position. The search position will be marked on the chart with an arrow symbol (for removing that symbol press the **Clear Location Mark** button).

Remark _____

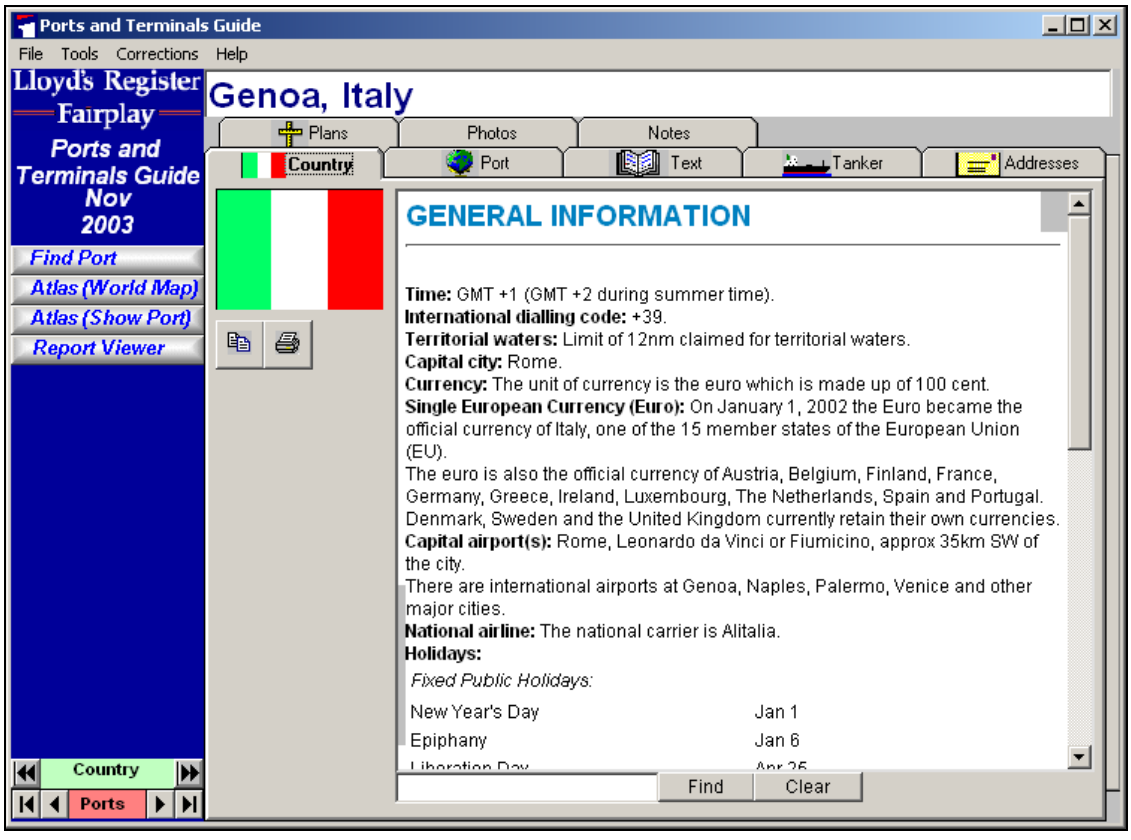
After pressing the Set Search Position button, any LEFT click sets the search position. In order to scroll the chart window or zoom it with a boundary box press and hold down the CTRL key. While the CTRL key is held down you can scroll and zoom with the boundary box in the same way as in the chart view mode (for zoom out press and hold down the CTRL and SHIFT key simultaneously) (see chapters VI.1.0 and VI.2.0).

All ports stored in the Ports and Terminals Guide database and located at a distance less then the **Search Range** from the search position will be listed in the panel. The number of found ports is displayed in the top right corner of the panel.

5) Select the port you are interested in. To highlight the port on the chart press **Highlight Port Location**. The port will be marked on the chart with an arrow symbol (to remove the symbol press the **Clear Location Mark** button).



6) Press on the **Get Port Information** window. The Ports and Terminals Guide program will be called and it will display information about the port you have selected in the list.


Ports and Terminals Guide
File Tools Corrections Help
Lloyd's Register Fairplay
Ports and Terminals Guide Nov 2003
Find Port
Atlas (World Map)
Atlas (Show Port)
Report Viewer
Genoa, Italy
Plans
Photos
Notes
Country
Port
Text
Tanker
Addresses
GENERAL INFORMATION
Time: GMT +1 (GMT +2 during summer time).
International dialling code: +39.
Territorial waters: Limit of 12nm claimed for territorial waters.
Capital city: Rome.
Currency: The unit of currency is the euro which is made up of 100 cent.
Single European Currency (Euro): On January 1, 2002 the Euro became the official currency of Italy, one of the 15 member states of the European Union (EU).
The euro is also the official currency of Austria, Belgium, Finland, France, Germany, Greece, Ireland, Luxembourg, The Netherlands, Spain and Portugal. Denmark, Sweden and the United Kingdom currently retain their own currencies.
Capital airport(s): Rome, Leonardo da Vinci or Fiumicino, approx 35km SW of the city.
There are international airports at Genoa, Naples, Palermo, Venice and other major cities.
National airline: The national carrier is Alitalia.
Holidays:
Fixed Public Holidays:
New Year's Day Jan 1
Epiphany Jan 6
Find
Clear
Country
Ports

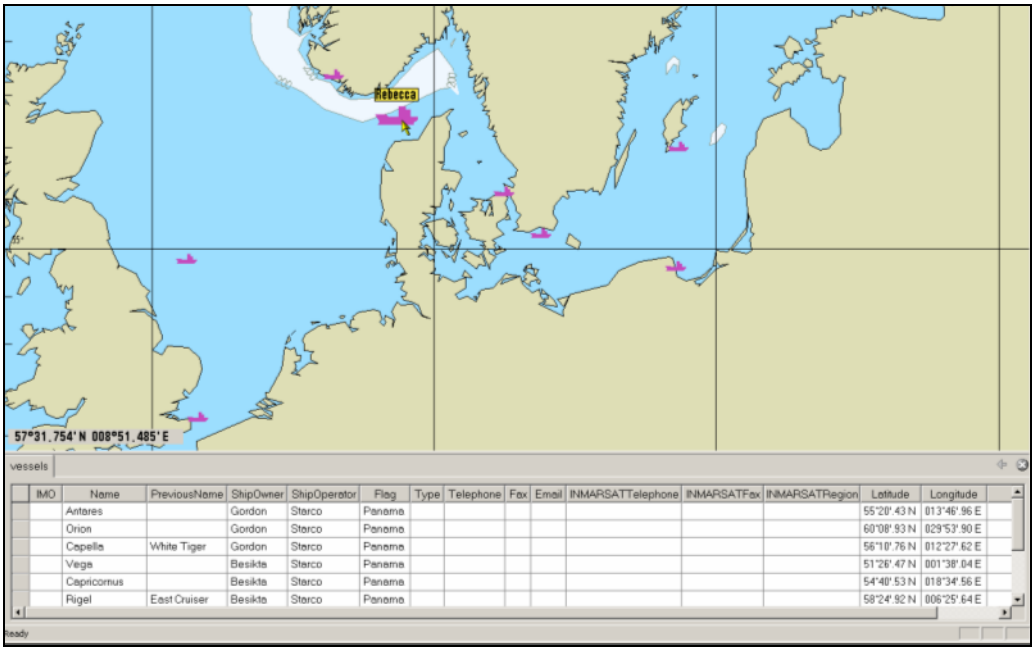
For more information about Ports and Terminals Guide of Lloyd's Register Fairplay Ltd. use the built-in help and user manual.

VIII. USER DATABASES

1.0 General Information

Users of OceanView™ have the possibility to enter their own global information into local or networked databases. For example, a vessel owner might want to plot the positions of his vessels into the system on a daily basis, and see the positions shown graphically on the chart. There are a number of pre-defined databases included with OceanView™ and in addition, users can define their own using the Database Wizard.

To open a local database, choose **Database > Open Database** and select one of the available ***.leg** files (the **Vessels.leg** was selected on the picture below). The screen will look as follows:


Rebecca
57°31.754' N 008°51.485' E
vessels
IMO Name PreviousName ShipOwner ShipOperator Flag Type Telephone Fax Email INMARSATTelephone INMARSATFax INMARSATRegion Latitude Longitude
Antares Gordon Starco Panama 55°20'.43 N 013°46'.96 E
Orion Gordon Starco Panama 60°08'.93 N 029°53'.90 E
Capella White Tiger Gordon Starco Panama 56°10'.76 N 012°27'.62 E
Vega Besikta Starco Panama 51°26'.47 N 001°38'.04 E
Capricornus Besikta Starco Panama 54°40'.53 N 018°34'.56 E
Rigel East Cruiser Besikta Starco Panama 58°24'.92 N 006°25'.64 E
Ready

Objects (vessels in this case) can be entered and edited using the buttons on the toolbar:

These functions may also be accessed through the **Objects** menu.

A new object is added with the **Add New Object** button. To set the object position, click in the chart. All other relevant information can now be added in the database window.

An existing object may be deleted using the **Delete Object** button.

Objects can be moved and edited using the **Edit object** button.

Objects may have their appearance changed using the **Style editor** function.

Existing object and field information updates and edits must be saved using the **Save** button.

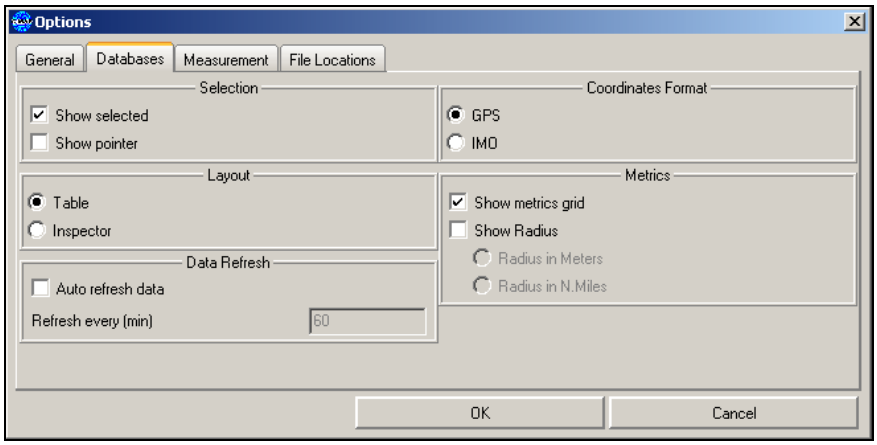
The **Cancel** button is used to cancel the current operation.

Warning!

Text editor in the grid supports different languages; thus you can enter any Unicode text in the object fields and see it on the map.

You can edit field values entering them in grid cells or choosing from drop-down lists. Find description of using drop-down lists in legend grid in APPENDIX D.

This group of settings is accessible on the **Tools > Options > Databases** panel.



➢ **Selection**

Show selected – Selected object is highlighted with yellow color.

Show pointer – Selected object is highlighted with a bold border.

➢ **Layout**

Table – Objects in the user database panel are displayed in the form of a table.

Inspector – Objects in the user database panel are displayed in the form of an inspector.

➢ **Data Refresh**

When the **Auto refresh data** option is ticked, data stored in the database are synchronized with data displayed in the user database panel. The **Refresh every (min)** option specifies the period of synchronization.

➢ **Coordinates format**

GPS – Coordinates of the user database objects are displayed in the GPS format: <DDDºMM.mmm'$>, where DDD is degrees, MM is minutes, mmm is thousandths of minute, $ is direction (N/S/W/E).

IMO – Coordinates of the user database objects are displayed in the IMO format: <DDDºMM.mm'$>, where DDD is degrees, MM is minutes, mm is hundredths of minute, $ is direction (N/S/W/E).

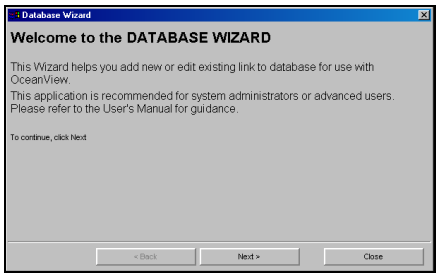
➢ **Metrics**

Show metrics grid – Line or area nodes' coordinates are displayed in the right part of the user database panel.

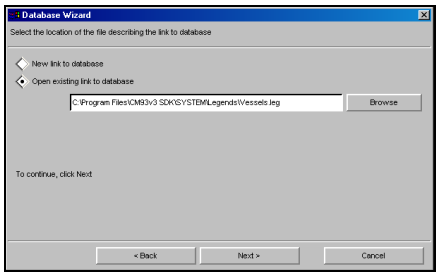
Show Radius – Line or area curves' radiuses are displayed in the right part of the user database panel. By default all curves have radiuses equaling zero (straight lines). You may set new radius values, forming curves.

2.0 Database Wizard

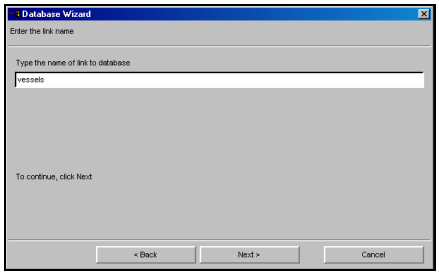
This section is intended for system administrators or advanced users and describes how to connect OceanView™ to external client databases.

1. 
Database Wizard
Welcome to the DATABASE WIZARD
This Wizard helps you add new or edit existing link to database for use with OceanView.
This application is recommended for system administrators or advanced users. Please refer to the User's Manual for guidance.
To continue, click Next
< Back
Next >
Close

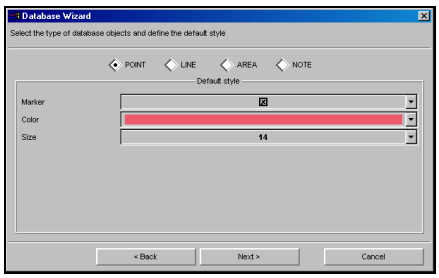
The Database Wizard is the link between an external database and OceanView™. It can decide what is to be displayed on the screen, from which database, and how. Points, Lines, Areas, and Notes can be generated and displayed, or altered from existing databases. In order to access the Wizard, select **Database > Database Wizard**. The Welcome window will appear.

2. 

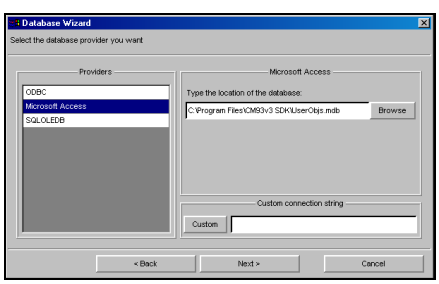
Choosing **Next** will bring you to this screen where you must make your choice of Creating a new database or opening an existing one for editing. Clicking **Browse** will open a browser for selecting the file that you wish to edit. Choose the file and then press **Open** to select it. In the event of generating a new database you will be prompted for a Title and a Description.

3. 

Enter the desired field names and then choose **Next** to continue with database selections.

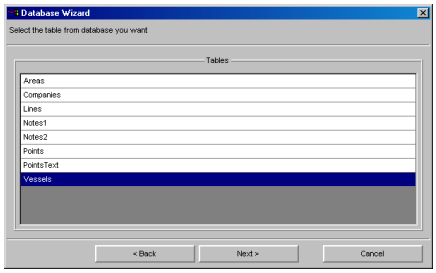
4. 

The next step is to select the appropriate object definitions. Choose the style (point, line, area or note), color, type and size. Once satisfied with the dialogue box choices, click **Next** to continue.

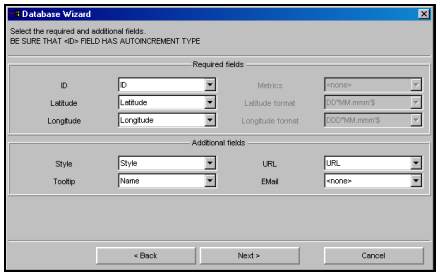
5. 

This page defines the type of connection to database and, when necessary, the initialization parameters. Currently OceanView™ supports the ODBC protocol and native Microsoft Access link. When connecting to a database via ODBC you must select the Data Source from the list of available data sources and set the user name and password. This information defines the access rights of a particular user to the database or particular tables or fields. A system administrator should set appropriate parameters for this function. When connecting to a Microsoft Access file

(*.mdb) the full path must be defined. The "Custom connection string" allows manual input of this information.

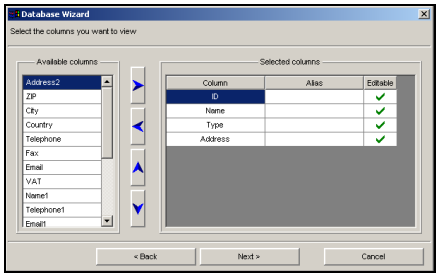
6. 

This page will present available tables of connected databases and allow the selection that will be associated with the created database (linked to OceanView™). Select a table from the options and click **Next**.

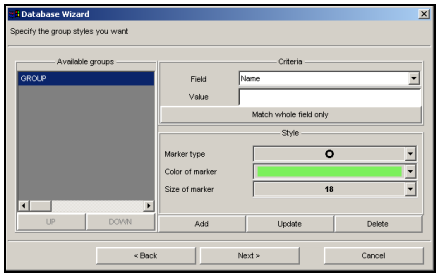
7. 

Definitions of required and additional fields are prompted. Required fields are used for initialization of the legend, additional fields are used for the correct presentation and activation of communication features. This page allows association of names of fields as they are used for corresponding to fields even if they have a different name.

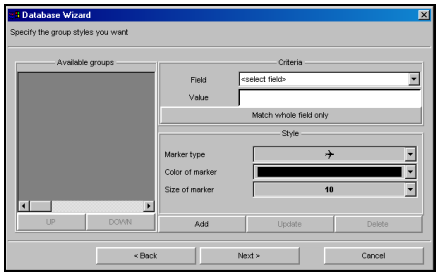
Database field description is applied in APPENDIX A and will help to clarify the selection process.

8. 

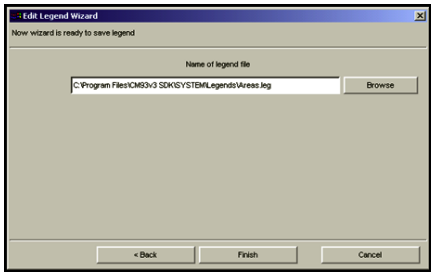
At this stage, definitions of database fields will be chosen. The left side of the window displays the list of all available fields of the database. The right window presents the fields that are selected to display. Left and right buttons allow changing the contents of displayed fields. Up and down buttons change the order of fields in the OceanView™ table.

9. 

The last stage is to define a group style. This gives objects that will have particular values of attributes a specific group style. This is not a mandatory operation and may be skipped if there is no need to have a group. The criterion for this is defined by: Field – associates a field of database that will contain the descriptor. Value – defines the value of "Field" to sort out the records that will match the criteria.

10. 

The objects that match to defined criteria are displayed on the chart in accordance with style defined in the group "Style". Add will create a new style and add to the list, Delete removes the style from the list. <Up> <Down> allow changing the priority of styles, the highest priority placed on the top.

11. 

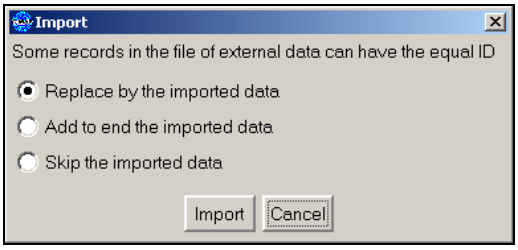
When group styles are created, click **Next** to complete generation of the legend. The full path may be entered manually or a Browse button is provided.

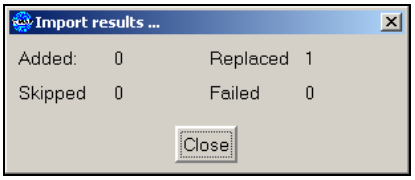
3.0 Export and Import Database Objects

Database objects can be exported to external OceanView™ files (with .ext extension), sent to other users as usual MS Windows files and imported back from files to OceanView™.

➢ **Export**. Select the **Database > Export > External OceanView file** menu command. The standard MS Windows **Save as** window will appear. Enter the file name and press **Save**. All records selected in the User Database grid will be exported. The default folder for saving Database object files is set up in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0).

➢ **Import**. Select the **Database > Import** menu command. The standard MS Windows **Open** window appears and you can select a file EXT containing database objects. Then you can define how to import records with same ID's – replace, add or skip duplicates. After importing the message about import results will be shown.


Import
Some records in the file of external data can have the equal ID
Replace by the imported data
Add to end the imported data
Skip the imported data
Import
Cancel



IX. PREPARATION OF PRESENTATIONS

1.0 OVB Bookmarks

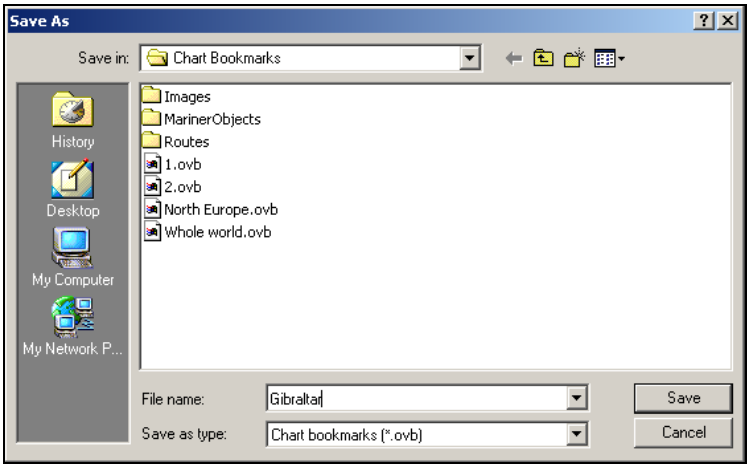
OVB means OceanView Bookmark. These bookmarks are external OceanView™ bookmarks. The principal difference of external bookmarks from internal ones (see chapter VI.3.0) is the following. External bookmarks are saved as standard MS Windows files (with .ovb extension) in a user defined folder. You can operate these bookmark files as other MS Windows files. For example you may send and receive them from other OceanView™ users.

Moreover, these files contain additional information about current chart settings such as the database version, dataset name, presentation model, display type, etc. (see chapters X.2.0, X.3.0). When you open an external bookmark all these chart settings are restored.

The above mentioned feature is possible due to the OceanView™ multi-windows feature (see chapter VI.4.0). An external bookmark will be opened in a new window.

And last, when you double click on a file with an .ovb extension in the MS Windows environment it automatically runs OceanView™ with the saved view at start-up instead of the world map.

Press the button to open the standard **Save As** window.



Here you can type in the file name (name of bookmark) and save it.

Press the button on the toolbar to open the dialog where you can open a bookmark.

Remark _____

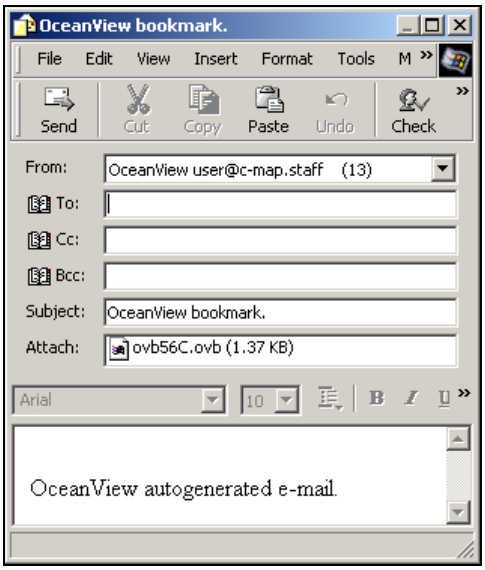
*Instead of these icons you may use the **File > Open** and **File > Save** commands as well as CTRL-O and CTRL-S hot-keys. **File > Save as** saves the bookmark with a different name. The four last opened bookmarks can be accessed in the **File** menu. Deleting and renaming can be performed as usual in the **Open** and **Save** windows.*

The default folder for external bookmarks can be set in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0).

2.0 Sending OVB Bookmarks by E-Mail

There is a possibility to send OVB Bookmarks by e-Mail directly from OceanView™.

Select the **File > Send > Bookmark** menu command. Your default e-mail program will run. The OVB bookmark will be attached to the auto-generated e-mail. Select a recipient and send the e-mail.



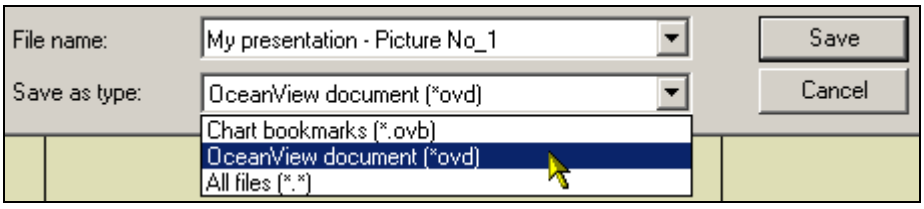
3.0 OVD Bookmarks

OVD means OceanView Document bookmarks.

In addition to OVB bookmarks (see chapter IX.1.0) you can also use OVD bookmarks. These bookmarks contain all information saved in OVB bookmarks and, in addition, all open user databases (for information about databases see chapter VIII.1.0). When you work with databases you can save OVD bookmarks and when you open them next time all the databases will also be opened.

This feature may be used for example in the preparation of presentations. Create a database containing necessary information (list of ports or offices, planned harbor or offshore installations, planned tracks or routes, etc.). Save the OVD bookmark. During presentation open this bookmark and all the information will be displayed on the screen.

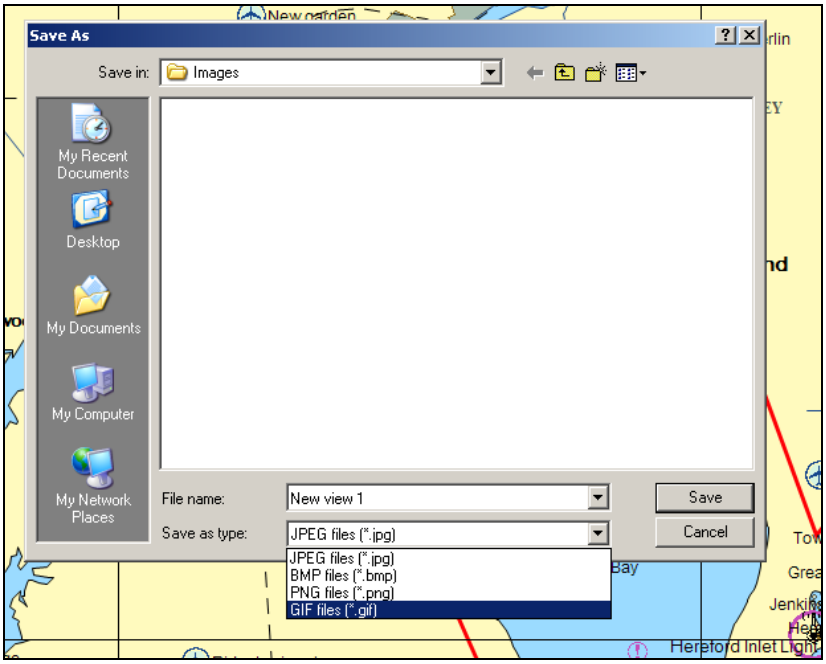
Work with OVD bookmarks is carried out in the same way as with the OVB bookmarks (and buttons). In order to open (save) an OVD bookmark select the appropriate file type in the **Open** (**Save As**) window and press **Open** (**Save**) button.



4.0 Screenshots.

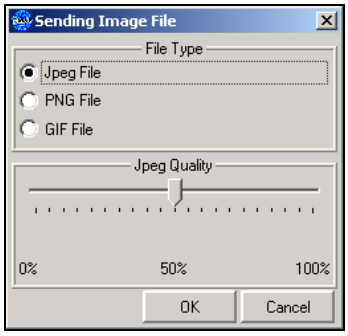
The current view (chart, routes, opened databases, etc.) can be saved as a picture.

The **File > Export > To Image File** menu command is used for saving image files. In the **Save as** dialog window you can select the image file format.



Contents of the entire chart window will be saved immediately after selecting one of these menu commands. The default folder for saving images is set in the **Tools > Options > File Locations** dialog box (see chapter IX.6.0).

There is a possibility to send a screenshot by e-mail. Select the **File > Send > Image file** menu command. In the Sending Image File you can choose the format of the image file.

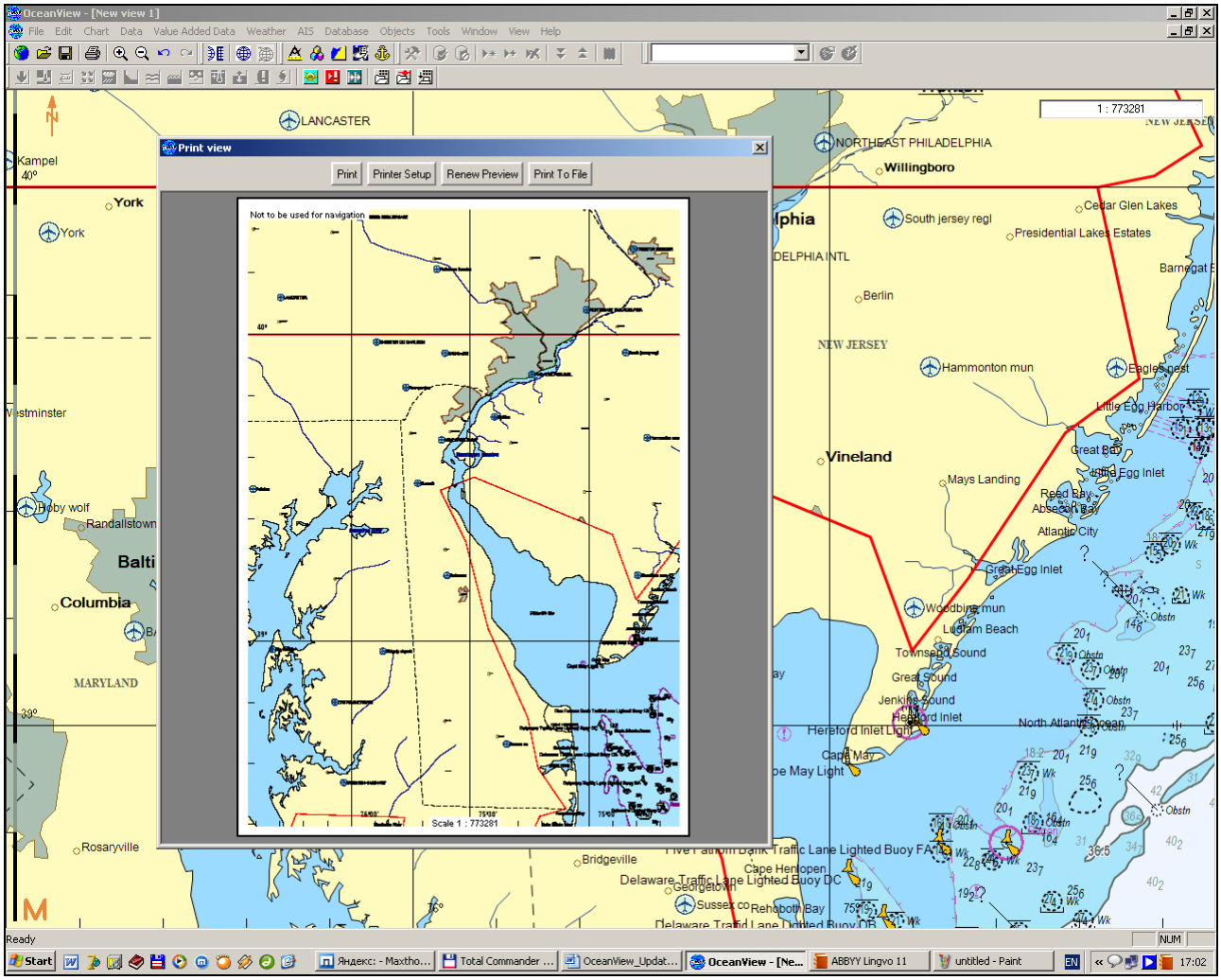


Your default e-mail program will run. A screenshot in the specified format will be attached to the auto-generated e-mail. Select a recipient and send the e-mail.

5.0 Print Function

The current view can be printed out directly from OceanView™.

Press the button (or go to the **File > Print** command). The **Print view** window will appear.



An image is created in the current scale with the whole paper sheet coverage. It is possible to zoom in the preview by three times by clicking with the LEFT mouse button on the image. The forth click will show the whole sheet again.

The following four buttons are available here:

Print — Print the image.

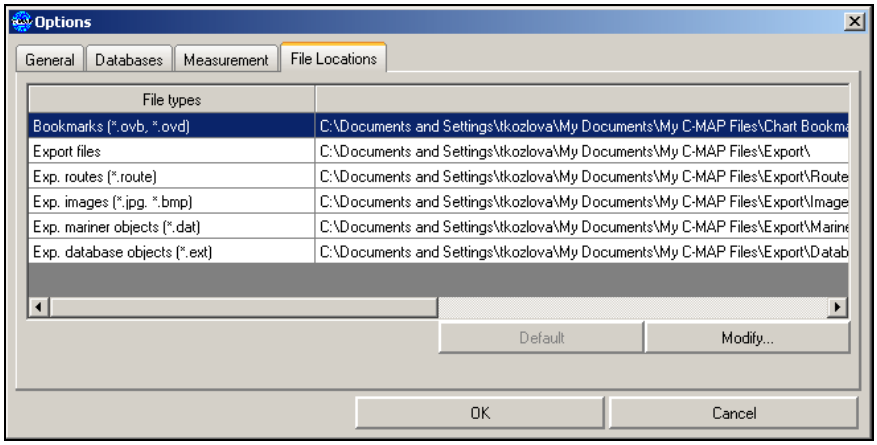
Printer Setup — Printer setup. A standard setup window.

Renew Preview — The whole paper sheet will be displayed.

Print To File — Press this button and your picture will be saved as a standard BMP file.

6.0 Setting File Locations

The **Tools > Options > File Locations** dialog box allows defining a default folder for saving external bookmarks (see chapters IX.1.0 and IX.3.0) and exported files: routes (see chapter VII.5.2), images (see chapter IX.4.0) , Mariner's objects (see chapter V.7.3), and User Database objects (see chapter VIII.3.0).



The **Modify** button opens the **Browse for folder** window where you can select a default folder for files of the selected type.

The **Default** button is highlighted only when **Exp. routes**, **Exp. images** or **Exp. mariner objects** file types are selected. It creates the **Routes, Images,** or **MarinerObjects** folders within the defined folder for Bookmarks.

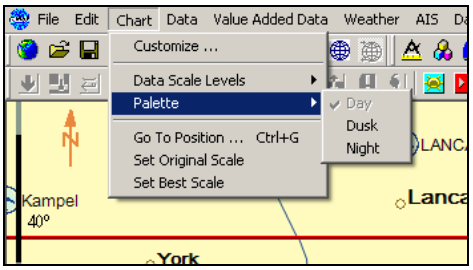
Remark _____

If you change the folder for bookmarks and have not changed other folders (for routes, images, etc.) before, these folders are assigned within the bookmarks folder automatically.

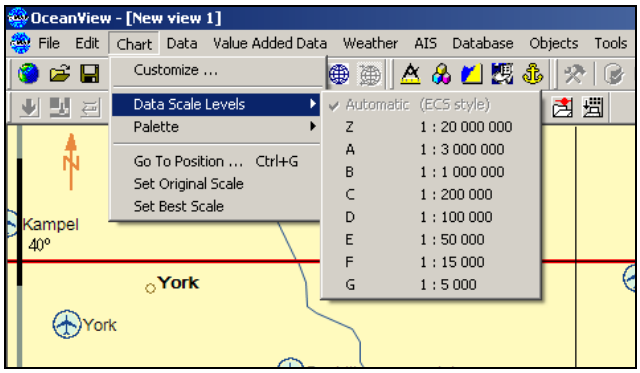
X. CHART VIEW SETTINGS

1.0 Palette and Scale Levels

➢ There are three palette kinds that can be chosen from the **Chart > Palette** menu.



➢ Data Scale Levels are chosen from the **Chart > Data Scale Levels** menu.


OceanView - [New view 1]
File Edit Chart Data Value Added Data Weather AIS Database Objects Tools
Customize ...
Data Scale Levels
Palette
Go To Position ... Ctrl+G
Set Original Scale
Set Best Scale
Automatic (ECS style)
Z 1 : 20 000 000
A 1 : 3 000 000
B 1 : 1 000 000
C 1 : 200 000
D 1 : 100 000
E 1 : 50 000
F 1 : 15 000
G 1 : 5 000
Kampel
40°
York
York

By default it is set in Automatic mode (ECS style). It means that OceanView™ automatically chooses the best chart (chart of best scale of compilation) from its database depending on the current scale shown by the **Scale indicator**. However, you can choose to see charts of one range only. The **Chart > Data Scale Levels** command will set the required range. The following table gives some additional information on the scale ranges:

Scale name	Letter symbol	Scale range
Background, small scale	Z	1:5,000,001 – UNLIMITED
Background, medium scale	A	1:1,500,000 – 15,000,000
Overview	B	1:500,001 – 1:1,500,000
General	C	1:150,001 – 1:500,000
Coastal	D	1:50,001 – 1:150,000
Approach	E	1:15,001 – 1:50,000
Harbour	F	1:5,001 – 1:15,000
Berthing	G	0 – 1:5,000

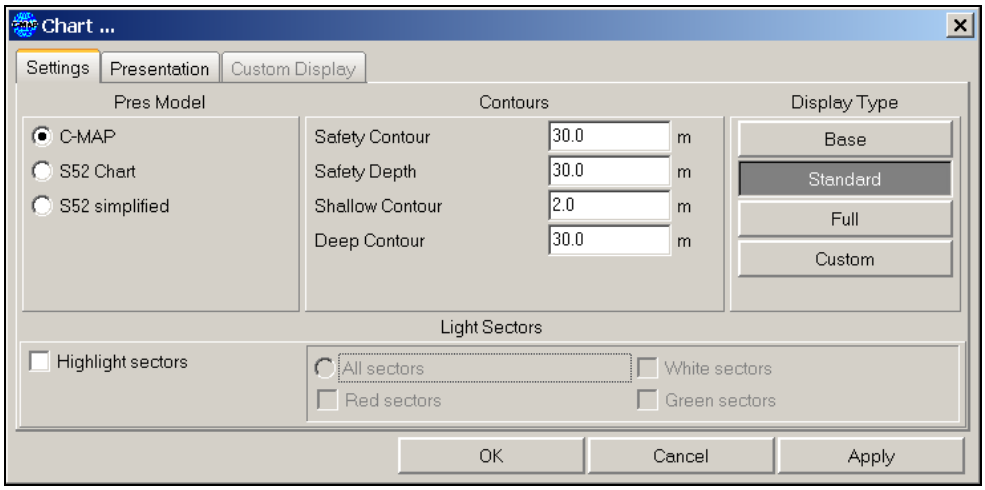
Remark

When you set a wrong scale level, chart information can be either scarce or too detailed slowing down all computation process. Using the automatic mode is strongly recommended.

2.0 General Chart Settings

By means of **Chart > Customize** you can arrange your chart settings and presentation parameters. These settings are applied to the current chart window.

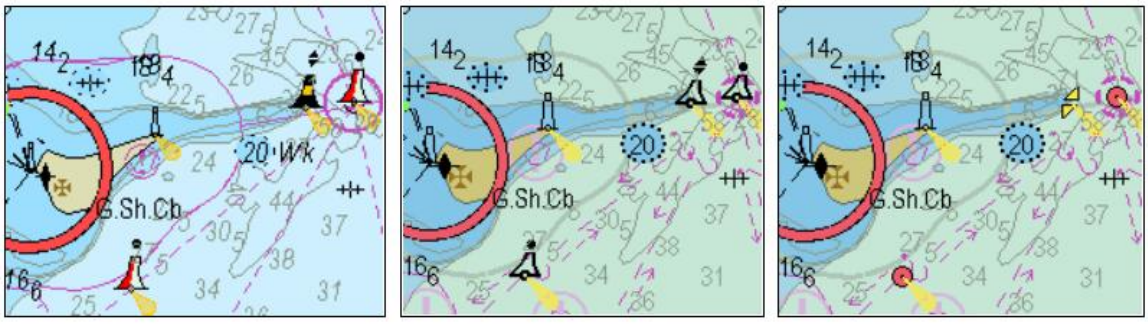
General chart settings are accessible via the **Chart > Customize > Settings** menu command.



2.1 Presentation Model

Presentation model (**Pres Model)** allows selection of the presentation model for the electronic chart:

- **C-MAP** C-MAP presentation model similar to traditional paper chart presentation.
- **S-52 Chart** Presentation model in accordance with the IHO S-52 standard.
- **S52 Simplified** S-52 chart presentation model with simplified symbols for boys and beacons.



C-MAP **S-52 Chart** **S-52 Simplified**

2.2 Depth Contours

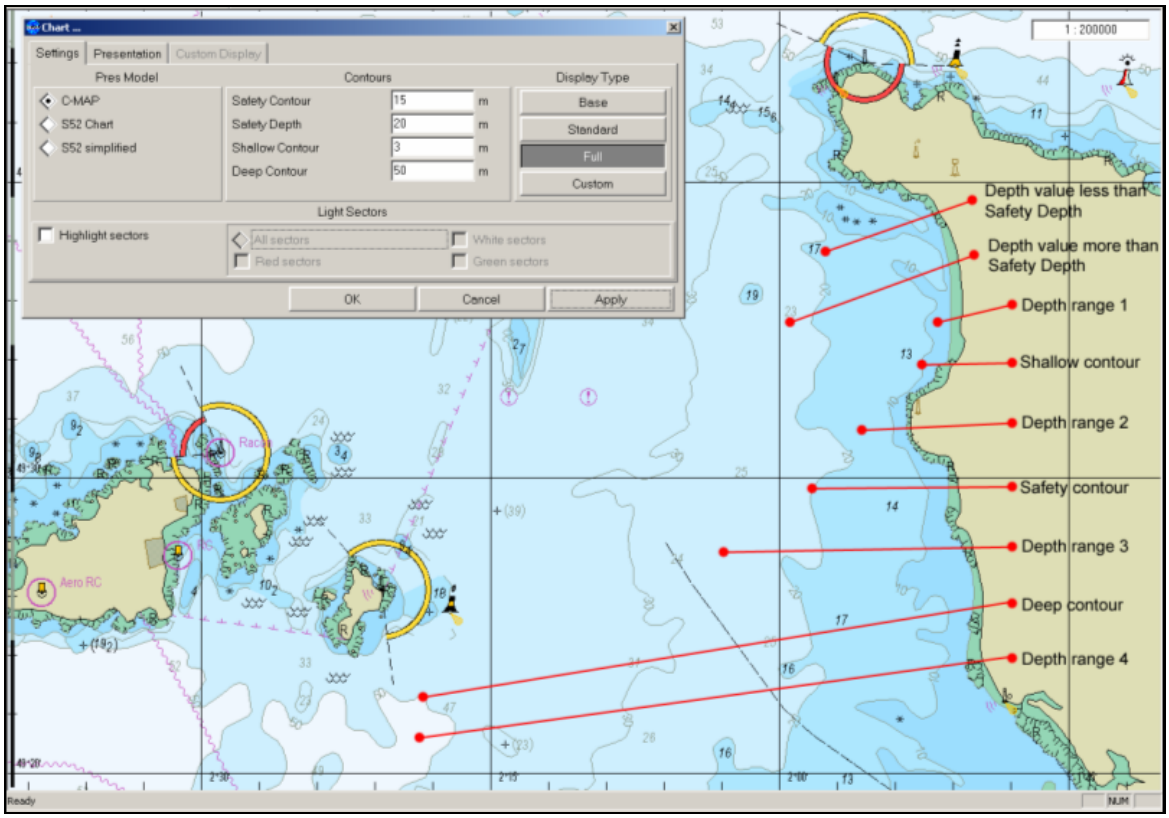
The **Contours** section allows you to set the safety, shallow and deep depth contours for a vessels particular draft and safety depth.

- **Safety Contour** is the depth contour that should not be crossed to avoid grounding of the vessel.
- **Safety Depth**. Spot sounding values shallower or equivalent to the Safety Depth are displayed in black color while spot soundings deeper than the set value will be displayed in grey color.
- **Shallow Contour** sets the value of the depth contour that is used to display better the relief of the sea bottom just below the water surface. It should be shallower than the Safety contour.

- **Deep Contour** separates a deep depth area. It should be deeper then the safety contour.

These contours are used to fill depth areas between them with a special color. These colors are presented in the following table:

Depth range			Color	
Number	From	To	C-Map presentation	S-52 presentation
1	Chart Datum	Shallow Contour	Dark blue	Dark blue
2	Shallow Contour	Safety Contour	Blue	Blue
3	Safety Contour	Deep Contour	Light blue	Greyish green
4	Deep Contour	Unlimited	White	Light greyish green



Remark _____

All three kinds of contours mark a depth contour that is equal or deeper to the assigned depths. For example, a safety contour is set as 15m. If there is no 15m contour on a chart currently viewed but there are 10m and 20m contours, the 20m contour will be selected (as on the picture above).

Remark _____

Also note that sometimes OceanView™ does not "see" some depth contours, although they are displayed on the chart. It happens because OceanView™ "sees" only the depth contours that limit depth areas. Information about depth areas and their limits can be found in the ***Object info*** *panel (see chapter VI.5.0).*

A two-color shade can be applied in case of setting the ***Chart > Customize > Presentation > Two shades*** *option (see below).*

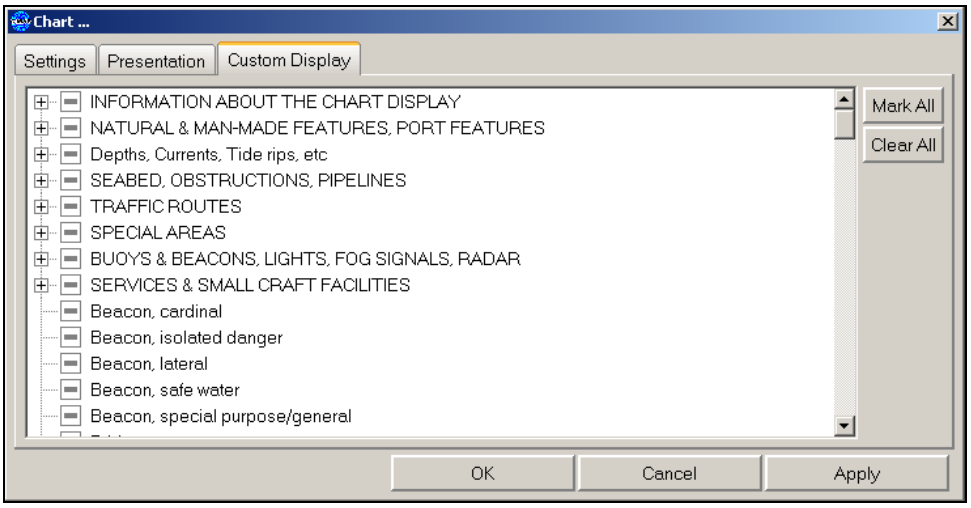
2.3 Display Type

Display Type option is unique for vector electronic charts and allows reducing the content of displayed information. It can be of the following types: Base, Standard, Full or Custom.

- **Base** Minimum allowable set of information
- **Standard** Minimum set of information sufficient for navigation
- **Full** All chart information will be shown.
- **Custom** When you select the Custom display type you will be transferred to the **Custom Display** dialog box where you can select objects to be displayed from the list. This dialog box is available only when you select the **Custom** Display type.

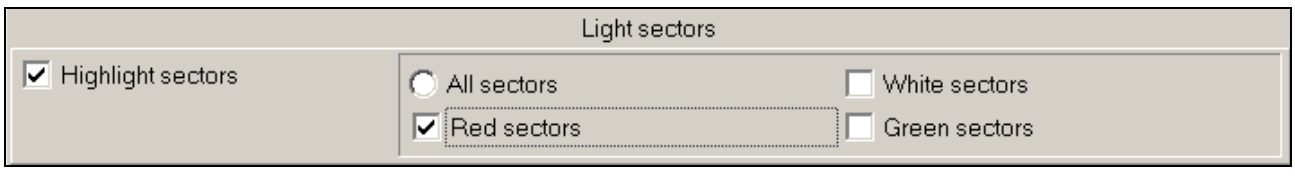
This type is independent of Base, Standard and Full Display types. When you select all objects to be shown you get the Full Display type. With all unselected objects there will be no information displayed on the screen at all.

The Custom display type is saved automatically and you will not loose your settings when you select another Display type.



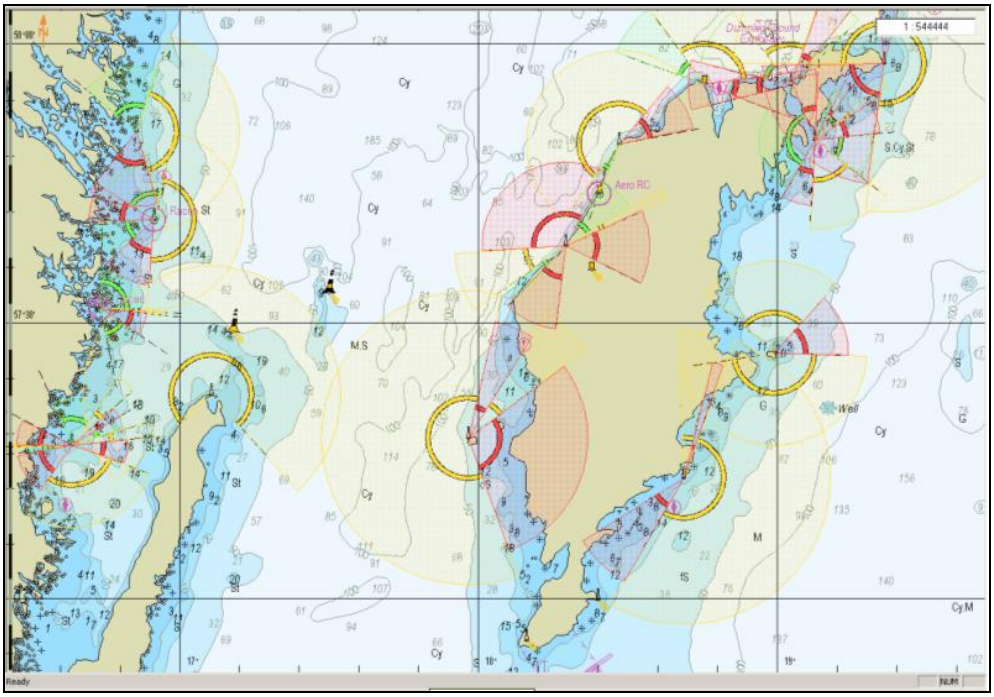
2.4 Light Sectors

Light sectors section is intended to set the required presentation of Light sectors.



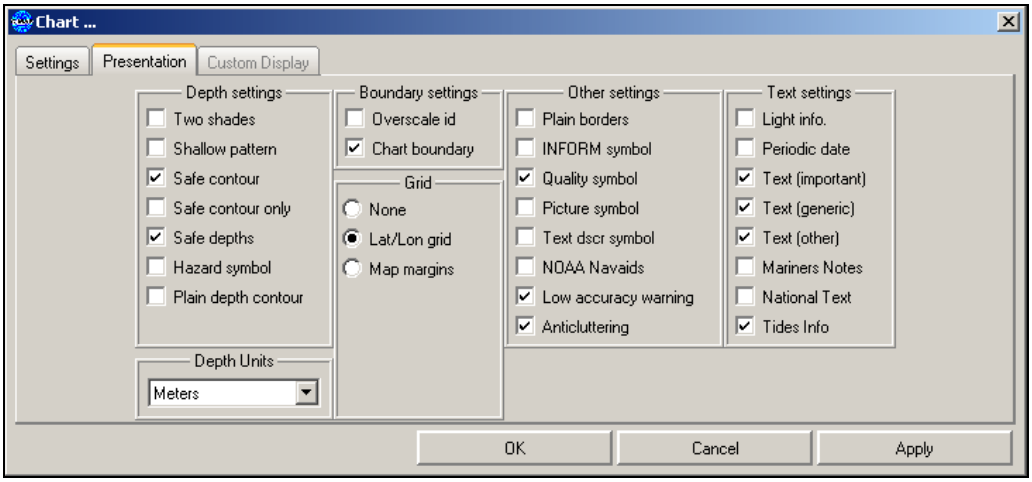
- **Highlight sectors:** Selected light sectors will be highlighted with corresponding colors for all lighthouses in accordance to the range of light and sector limits.
- **All Sectors:** When you select this option all sectors (red, white and green) will be switched on for highlighting. Also this option is switched on automatically when you select all sectors manually.
- **Red sectors:** Red sectors will be highlighted.
- **White sectors:** White sectors will be highlighted.

- **Green sectors:** Green sectors will be highlighted.



3.0 Presentation Settings

This group of settings is accessible via the **Chart > Customize > Presentation.**



➢ **Depth settings**

Two Shades – When it is switched on only two shades are applicable: shallow waters and deep waters. The boundary is the Safety contour (see above). Shallow and Deep contours are not applicable. A depth area shallower than the Safety contour will be colored as the shallow water (dark blue) and a depth area deeper than the Safety contour will be colored as the deep water (white or light greyish green).

Shallow pattern – When it is activated it applies a dedicated pattern to the depth area that is shallower than the Safety contour.

Safe contour – When it is activated the Safety contour will be highlighted.

Safe contour only – When it is activated all depth contours except the Safety contour will be hidden. It is used for removing depth contours especially in areas with complex relief to reduce cluttering. If the previous option (**Safe contour**) is switched off all depth contours are hidden including the Safety contour.

Safe depths – When it is activated the spot soundings deeper than the Safety depth will be displayed. When switched off they will not be displayed.

Hazard symbol – When it is activated all hazards such as rocks, wrecks, etc. shallower than the Safety contour and positioned outside of it will be marked with this special symbol.

Plain depth contour – When it is activated it removes the values from depth contour lines to reduce the content of information.

➢ **Boundary settings**

Overscale id – When it is activated it applies a dedicated vertical pattern to any over-scaled chart (the current scale is two times more then the compilation scale). If at any time you are looking at two or more charts in the chart window only the over-scaled charts will have the vertical over-scale pattern applied.

Chart boundary – When it is activated boundaries of different source charts are separated with special red lines. Normally all nautical charts overlap each other but in the chart database overlapping is excluded by "cutting" source paper charts. These "cutting" borders can be displayed.

➢ **Grid** – This option allows setting up a chart window border.

- **None** – Neither latitudinal / longitudinal grid nor map margins will be applied.

- **Lat/Lon grid** – A graticule (network of lines representing meridians and parallels on the chart) across the whole chart window as well as latitude graduation will be displayed.

- **Map margins** – Map margins will be displayed in the manner of a paper nautical chart.

➢ **Other settings**

Plain borders – When it is activated it applies the rule that all specially symbolized borders (area limits) should be displayed as plain lines for reducing the content of displayed information. It is effective for S-52 presentation only.

Ordinary borders **Plain borders**

INFORM symbol – When it is activated it allows the display of a special info symbol. It informs you that there is additional text information related to that area.

Quality symbol – When it is activated it allows the display of a special S-52 symbol reflecting the quality of electronic chart. It is effective for S-52 presentation model only.

The quality symbols correspond to so-called zones of confidence. There are six kinds of zones and six quality symbols accordingly. These zones are defined by the quality of survey, in particular positional accuracy, depth accuracy, seafloor coverage and typical survey characteristics. The zones are the following (in brackets the position accuracy as an example): A1 (5m), A2 (20m), B (50m), C (500m), D (worse than 500m) and U (data not accessed).

Picture symbol – When it is activated it allows the display of a special info symbol for all objects having a picture attribute (for example a bridge view that you can see).

Text dscr symbol – When it is activated it allows the display of a special info symbol for all objects having a textual description attribute (for example, an extraction from pilot book).

Remark _____

Though Inform and Text description both contain text information, there is difference between them. The Inform attribute is a text always in English and usually of a small size. A text description can be in the national language and of a much larger size. For example, an entire page from an Italian Pilot book.

Please note, the same symbol is used for objects having inform, picture and text attributes. But when you activate Picture symbol, for example, objects having a text description attribute will not be marked with the above mentioned symbol.

NOAA Navaids – When it is activated, buoys and beacons are displayed in **CHART NO. 1 (UNITED STATES OF AMERICA)** style, when it is deactivated – in **INT 1** style.

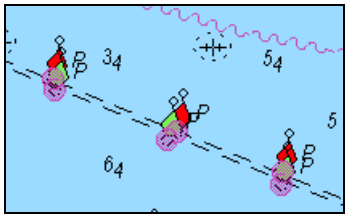
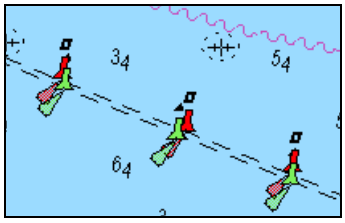


CHART NO. 1



INT 1

Low accuracy warning – When it is activated, special symbols are shown on the map for objects with unknown or measured with low accuracy depths.

Anticluttering – This option allows reducing cluttering. Anticluttering function works only on charts of level "C" and below (see chapter II.3.0), scale of which is larger then 1:500,000. Possible modes are On, Off and Underscale. It is applied to the following object types:

1) Geographical names, town and city names

2) Land elevations, Seabed areas

3) Obstructions, Wrecks, Underwater/awash rocks

4) Tides

5) Light information

➢ **Text settings**

Light info – When it is activated Light characteristics and sometimes names are displayed on the chart as text. Normally it is OFF to avoid cluttering.

Periodic date – When it is activated all lights with periodic dates of activity will be displayed during working periods only. If at the instance (date and time taken from your MS Windows clock) the light is deactivated it is not displayed at all.

Text (important) – When it is activated a text that has the category "important" will be displayed on the chart. It can be values of bridge clearances, depth values above obstructions, etc. Normally it is OFF to avoid cluttering.

Text (generic) – When it is activated a text that has the category "generic" will be displayed. This text information is taken directly from a source paper chart during encoding. It can be names of countries, cities, islands, etc. The difference from the **Text (other)** category is in the internal representation of information. For the User it is one more kind of text information. Normally it is OFF.

Text (other) – When it is activated a text that has the category "other" will be displayed. It can be the names of lights, etc. Normally it is OFF.

Mariners Notes – When it is activated Object name and Users' remark of Mariner Objects (if they are present in Mariner Object attributes) will be displayed.

National Text – When it is activated national object names (if they are present in the object description) will be displayed.

Tides Info – When it is activated and you move cursor over tide or tidal stream symbol, a tooltip appears (name of tidal prediction point, tidal height and time (UTC), speed of tidal stream). In order to view tooltips, chart scale must be larger then 1:100,000. For viewing name of tidal prediction point the option "Text (other)" must be activated.

➢ **Depth units** – You can select in this box what depth units are used. They can be meters, feet or fathoms.

APPENDIX A. FORMAT OF USER DATABASE FIELDS

ID – the field is used for unique identification of records. Only **<integer>** fields, including auto-increment type could be used. If the field type is not auto-increment, the program will generate a value for this field. Primary key field is recommended to assign to ID.

Latitude – the field is used to store latitude coordinates of geo-referenced location of objects. It can be of **<double>** or **<string>** type.

If the field has the **<double>** type, it stores decimal values in degrees from -90 to +90 with sign "-" if direction is S and "+" if N.

If the field has the **<string>** type, the format of data must be defined in the **Latitude Format** field. This wizard field is not linked to the database field and following formats may be chosen from the drop down list: <DDºMM.mmm'$> or <DDºMM'.mm $>, where DD is degrees, MM is minutes, mm and mmm is decimal minutes, $ is direction (S or N). The assigned Latitude field should contain string values in this format.

Longitude – the field is used to store longitude coordinates of geo-referenced location of objects. It can be of **<double>** or **<string>** type.

If the field has the **<double>** type, it stores decimal values in degrees from -180 to +180 with sign "-" if direction is W and "+" if E.

If the field has the **<string>** type, the format of data must be defined in the **Longitude Format** field. This wizard field is not linked to the database field and following formats may be chosen from the drop down list: <DDDºMM.mmm'$> or <DDDºMM'.mm $>, where DDD is degrees, MM is minutes, mm and mmm is decimal minutes, $ is direction (W or E). The assigned Longitude field should contain string values in this format.

Metrics – the field is used to store all Latitude and Longitude coordinates of geo-referenced location of objects. The field should be of **<binary>** type (**<OLE Object>** in Microsoft Access Database, **<image>** in Microsoft SQL Server Database). As **<binary>** type fields allow to store any variable-length binary data, it is impossible to use usual editors for viewing or editing. Special data formats are defined for Metrics field and OceanView™ interprets metrics according to these formats. Format description and example of C++ code for writing metrics of AREA object to Microsoft Access Database are resulted in APPENDIX B.

Style – the field is used to store the personal style of the object. The Style Editor of OceanView™ allows creating personal style for object, which has a higher priority than the common legend style. This field should be of **<string>** type, up to 255 characters long. General format of Style field and examples for POINT, LINE, AREA, and NOTE type objects are resulted in APPENDIX C.

Tooltip – the field is intended for storing the name of the object and used for displaying the tooltip when mouse cursor is pointed to the corresponding symbol on the chart. This field should be of **<string>** type, up to 255 characters long.

URL – reference to Website or name of file with a full path can be stored in this field and associated with the object. When such an object is displayed on the chart, clicking on the right mouse button and choosing "URL…" popup menu item activates the corresponding program (Internet browser for WWW, and Microsoft Word files) and loads the resource. The field should be of **<string>** type, up to 255 characters long.

Email – e-mail address can be stored in this field and associated with the object. When such an object is displayed on the chart, clicking on the right mouse button and choosing "E-Mail To…" popup menu item activates the mail client program (e.g. Microsoft Outlook or Outlook Express) and creates a new message to recipient specified in this field. The field should be of the **<string>** type, up to 255 characters long.

The set of necessary and additional fields depends on the object type and is defined in the table below:

Field / Object	POINT	LINE	AREA	NOTE
ID	✓	✓	✓	✓
Latitude	✓	✗	✗	✓
Longitude	✓	✗	✗	✓
Metrics	✗	✓	✓	✗
Style	✓ ✗	✓ ✗	✓ ✗	✓ ✗
Tooltip	✓ ✗	✓ ✗	✓ ✗	✓
URL	✓ ✗	✓ ✗	✓ ✗	✓ ✗
Email	✓ ✗	✓ ✗	✓ ✗	✓ ✗

✓ Necessary fields, which must be linked to corresponding fields in a User Database for creating objects of some type

✓ ✗ Additional fields that contain supplementary information and can be defined optionally

✗ Fields, which are not used for this object type

APPENDIX B. METRICS FORMAT DESCRIPTION

There are two kinds of metrics format for LINE and AREA objects – without and with radius of line curvature.

1) Formats for LINE objects:

- Format without radius represents the sequence of Longitude and Latitude coordinates of all LINE object points

(La1, Fi1, La2, Fi2, …, LaN, FiN)

- Format with radius represents the sequence of Longitude, Latitude coordinates and radiuses of line curvature for all LINE object points

(0, FiX, La1, Fi1, R1, La2, Fi2, R2, …, LaN, FiN, RN), where first pair of values 0 and FiX is just attributes of format with radius

2) Formats for AREA objects:

- Format without radius represents the sequence of Longitude and Latitude coordinates of all AREA object points with repeated first point at the end

(La1, Fi1, La2, Fi2, …, LaN, FiN, La1, Fi1)

- Format with radius represents the sequence of Longitude, Latitude coordinates and radiuses of line curvature for all AREA object points with repeated first point at the end with radius = 0

(0, FiX, La1, Fi1, R1, La2, Fi2, R2, …, LaN, FiN, RN, La1, Fi1, 0), where first pair of values 0 and FiX is just attributes of format with radius

The coordinates **La** and **Fi** presented in a square cylindrical projection:

La = A * Longitude

Fi = A * Latitude

Where:

Longitude – is a decimal value in degrees from -180 to +180 with sign "-" if direction is W and "+" if E

Latitude – is a decimal value in degrees from -90 to +90 with sign "-" if direction is S and "+" if N

Factor A is defined in the following way:

A = LONG_MAX / 180°

Where LONG_MAX = 2147483647 (maximum signed long value)

Thus A = 11930464.7111111111

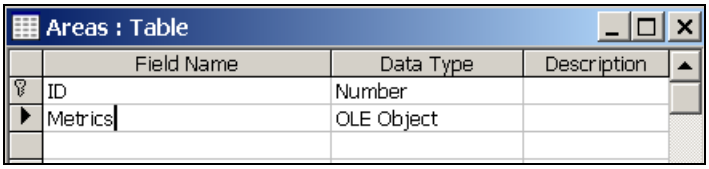
Radius of the line curvature **R** represents radius in meters increased by 100:

R = 100 x Radius

Attribute **FiX** represents any nonexistent value of Latitude (**>90°**) increased by A, for example:

FiX = A x 95°

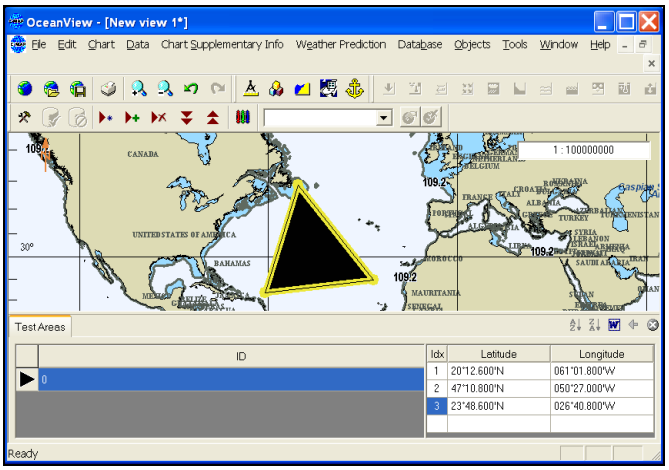
The sample C++ code writes coordinates of geo-referenced location of AREA object to Microsoft Access Database. "Objects.mdb" with "Areas" table, which contains two fields: **ID** of **<Number>** data type and **Metrics** of **<OLE Object>** data type must be created.



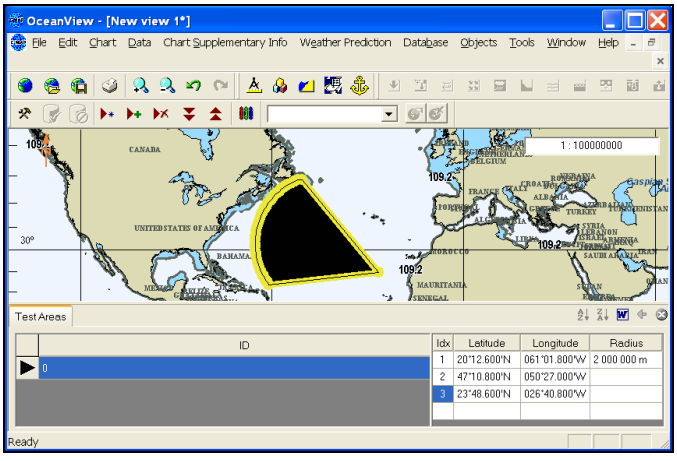
Microsoft.Jet.OLEDB.4.0 is used as OLE DB provider for MS Access. After running the program with this code and creating a legend, linked to the database, the area can be viewed in OceanView™.

Loading function with argument *bWithRadius* value equals:

- 0 – record with only Latitude and Longitude coordinates will be added, Metrics will be written in format without radius



- 1 – record with Latitude, Longitude coordinates and Radius of line curvature will be added, Metrics will be written in format with radius (areas with three and one point are shown on the pictures below)


OceanView - [New view 1*]
File Edit Chart Data Chart Supplementary Info Weather Prediction Database Objects Tools Window Help
1 : 100000000
Test Areas
ID
Idx Latitude Longitude Radius
1 20°12.600'N 061°01.800'W 2 000 000 m
2 47°10.800'N 050°27.000'W
3 23°48.600'N 026°40.800'W
Ready

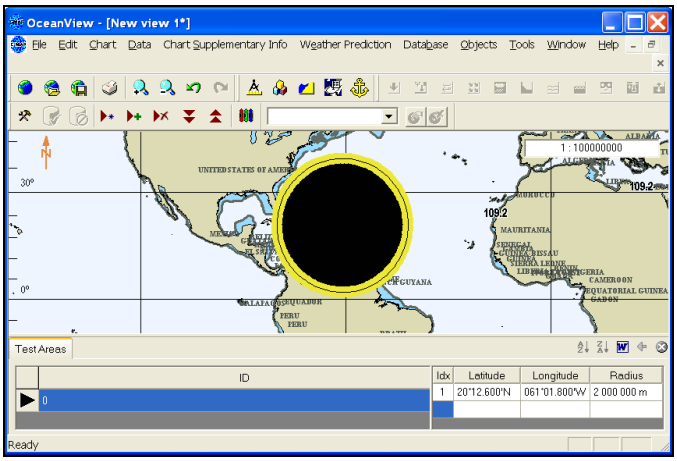
```
void CMainFrame::WriteMetrics(BOOL bWithRadius)

{

  #define POINT_COUNT 3 //count of area points

  #define FACTOR_A 11930464.7111111111 // LONG_MAX divided by 180

  #define NOT_EXIST_LAT 95

  struct Point {double Longitude; double Latitude; long Radius;};

  //coordinates (Longitude, Latitude) of area points and radiuses of curvature

  Point pPoints[POINT_COUNT] = {{-61.03, 20.21, 200000000}, {-50.45, 47.18, 0},
{-26.68, 23.81, 0}};

  long metrics_count;

  if (bWithRadius)

    metrics_count = (POINT_COUNT + 1) * 3 + 2;

  else

    metrics_count = (POINT_COUNT + 1) * 2;

  //create variant array of metrics

  SAFEARRAY* psaMetrics = ::SafeArrayCreateVector(VT_UI1, 0, metrics_count *
sizeof(long));

  ::SafeArrayLock(psaMetrics);

  long* pMetrics = (long*)psaMetrics->pvData;

  long La;

  long Fi;

  //write pair of values - attributes of format with radius

  if (bWithRadius)

  {

    *pMetrics = 0;

    pMetrics++;

    *pMetrics = (long)(NOT_EXIST_LAT * FACTOR_A);

    pMetrics++;

  }

  //save coordinates (Longitude, Latitude) and radius of all points in variant
array

  for(long idx = 0; idx < POINT_COUNT; idx++)
```

```
  {
    La = (long)(pPoints[idx].Longitude * FACTOR_A);
    *pMetrics = La;
    pMetrics++;
    Fi = (long)(pPoints[idx].Latitude * FACTOR_A);
    *pMetrics = Fi;
    pMetrics++;
    //write radius
    if (bWithRadius)
    {
      *pMetrics = pPoints[idx].Radius;
      pMetrics++;
    }
  }
  //for AREA object repeat first point at the end
  La = (long)(pPoints[0].Longitude * FACTOR_A);
  *pMetrics = La;
  pMetrics++;
  Fi = (long)(pPoints[0].Latitude * FACTOR_A);
  *pMetrics = Fi;
  pMetrics++;
  //write radius = 0
  if (bWithRadius)
    *pMetrics = 0;
  VARIANT varMetrics;
  varMetrics.vt = VT_ARRAY | VT_UI1;
  varMetrics.parray = psaMetrics;
  ::SafeArrayUnlock(psaMetrics);


  //write variant array to database
```

```
  _bstr_t    bstrConnectionString("Provider    =    Microsoft.Jet.OLEDB.4.0;Data
Source=d:\\Objects.mdb");

  _bstr_t bstrQuery("SELECT * FROM Areas");

  _variant_t vNull;

  vNull.vt = VT_ERROR;

  vNull.scode = DISP_E_PARAMNOTFOUND;

  _ConnectionPtr pConnection;

  _RecordsetPtr pRecordset;

  if (SUCCEEDED(pConnection.CreateInstance (__uuidof(Connection))))

    if      (SUCCEEDED(pConnection->Open(bstrConnectionString,      _bstr_t(""),
_bstr_t(""), adModeUnknown)))

      if (SUCCEEDED(pRecordset.CreateInstance(__uuidof(Recordset))))

      {

        pRecordset->PutRefActiveConnection(pConnection) ;

        if       (SUCCEEDED(pRecordset->Open(_variant_t(bstrQuery),       vNull,
adOpenForwardOnly, adLockOptimistic, adCmdText)))

        {

          //create an array of field names

          COleSafeArray vaFieldList;

          vaFieldList.CreateOneDim(VT_VARIANT, 2);

          long lArrayIndex[1];

          lArrayIndex[0] = 0;

          vaFieldList.PutElement(lArrayIndex, &(_variant_t("ID")));

          lArrayIndex[0] = 1;

          vaFieldList.PutElement(lArrayIndex, &(_variant_t("Metrics")));


          //create an array of values

          COleSafeArray vaValueArray;

          vaValueArray.CreateOneDim(VT_VARIANT, 2);

          lArrayIndex[0] = 0;

          vaValueArray.PutElement(lArrayIndex, &(_variant_t(0)));

          lArrayIndex[0] = 1;
```

```
            vaValueArray.PutElement(lArrayIndex, &(_variant_t(varMetrics)));


            //add new record
            pRecordset->AddNew(vaFieldList, vaValueArray);
            pRecordset->Close();
          }
        }
  return;
}
```

Circle area can be created by adding only one point with Latitude, Longitude and Radius.


OceanView - [New view 1*]
File Edit Chart Data Chart Supplementary Info Weather Prediction Database Objects Tools Window Help
1 : 100000000
Test Areas
ID
Idx Latitude Longitude Radius
1 20°12.600'N 061°01.800'W 2 000.000 m
Ready

APPENDIX C. STYLE FORMAT DESCRIPTION

The following definitions were used in description of the format:

'…' – String

[...] – One or none elements

{...} – One or more elements

| – Or

Remark _____

Please note, that the style format is not described completely as it was simplified for common use of objects.

Style can be represented by string:

<Style> ::= <GeometryType><BYTE Priority>{<IfStateStyle>|<DefaultStyle>}

<GeometryType>: = 'P'|'p'|'L'|'l'|'A'|'a'

Where:

'P' or 'p' – for Point type style

'L' or 'l' – for Line type style

'A' or 'a' – for Area type style

Priority defines the order, in which objects will be drawn. An object with a less *Priority* is drawn after objects with greater *Priority*. Default value of *Priority* is 1.

The *IfStateStyle* element allows applying style elements according to object states.

<IfStateStyle> ::= <If>{<StyleElement>}<EndIf>

<If> ::= 'I'<StateIndex>' '<ValueOfState>

Where the *StateIndex* is a fixed value:

<StateIndex> ::= 0

The *ValueOfState* element is a combination of three digits. The following values of object state may be used:

1) Object is highlighted or not by mouse pointer:

<ValueOfState> ::= '1 1 1' – highlighted

<ValueOfState> ::= '0 0 1' – not highlighted

2) Object is selected or not in the table:

<ValueOfState> ::= '2 2 2' – selected

<ValueOfState> ::= '0 0 2' – not selected

The *EndIf* element finishes the *IfStateStyle* element:

<EndIf> ::= 'I'

The *DefaultStyle* element allows applying style elements for all object states, not defined in *IfStateStyle* elements:

<DefaultStyle> ::= {<StyleElement>}

Every *StyleElement* can be one of the following types:

<StyleElement> ::= <SetDiscretization>|<ResetDiscretization>|<TextGroup>|<Ellipse>|<Pen>|<Brush>

The *SetDiscretization* element defines the position or positions where the drawing should be applied (sets the mode of metrics transformation). This element should be defined before *TextGroup and Ellipse* elements.

<SetDiscretization> ::= 'D' <char DiscretizationValue>

If *DiscretizationValue* is not defined (empty), the center of the object is taken (e.g. used for Point type style).

If *DiscretizationValue* =-128, all object points are taken (e.g. used for Line and Area type styles to draw circles in the nodes).

The *ResetDiscretization* element resets the mode of metrics transformation defined in the *SetDiscretization* element. This element recommended to be used before *Pen and Brush* elements.

<ResetDiscretization> := 'C'

The *TextGroup* element allows displaying text:

<TextGroup> ::= {<TextString>|<GetText>}<TextProperties>

The *TextString* element is a sequence of text symbols (*TextString* should be defined before *TextProperties*).

<TextString> ::= 'g'<String>' '

The *GetText* element allows getting text strings from database (*GetText* should be defined before *TextProperties*).

<GetText> ::= 'g'' '<char TooltipIndex>'

Where the *TooltipIndex* is a fixed value, meaning, that string is given from "Tooltip" object field.

<TooltipIndex> ::= 66

The *TextProperties* element draws text from *TextString* or *GetText* elements according to specified parameters:

<TextProperties> ::= 't'[<BYTE Size>[' '<BYTE ColorIndex>[' 'BYTE Type>[' '<BYTE BackColorIndex>[' '<BYTE BorderColorIndex>[' '<BYTE Indent>[' '<BYTE BorderWidth>]]]]]]]

Where the parameters are:

Size – size of text

ColorIndex – index of the text color from the color array.

The following color array is used for style elements:

Index	Color
0	Black
1	Blue
2	Green
3	blue green
4	Red
5	Magenta
6	Yellow
7	Grey
8	light grey
9	light blue
10	Green
11	Blue
12	Red
13	light magenta
14	Yellow
15	White

The *Type* is defined by bits (number of bit from right to left)

Bold – 1 bit

Italic – 2 bit

VerticalAdjustment – 3 and 4 bits (00 – Base, 01 – Center, 10 – Top and 11 – Bottom)

HorizontalAdjustment – 5 and 6 bits (00 – Left, 01 – Center, 10 – Right)

Font = 8 bit (for symbols 1 – "Wingdings", for text 0 – "Haettenschweiler")

Example of Type value: 10010101 = 149 (Bold, not Italic, Center Vertical and Horizontal Adjustments and "Wingdings" Font)

BackColorIndex – index of background color (no background if 255)

BorderColorIndex – index of border color (no border if 255)

Indent – distance from text to border

BorderWidth – width of border

Default values:

Size = 10

ColorIndex = 0

Type = 0

BackColorIndex = 255

BorderColorIndex = 255

Indent = 0

BorderWidth = 1

Ellipse draws ellipse in according with specified parameters:

<Ellipse> ::= 'e'<BYTE Width>[' '<BYTE Height>[' '<BYTE ColorIndex>[' '<BYTE LineWidth>[' '<BYTE BackColorIndex>]]]]

Where the parameters are:

Width – width of ellipse

Height – height of ellipse

ColorIndex – color index of ellipse

LineWidth – width of ellipse line

BackColorIndex – index of color of background (no background if 255)

Default values:

Height = Width

ColorIndex = 0

LineWidth = 1

BackColorIndex = 255

Pen element draws line by pen, specified by parameters:

<Pen> := 'P'<BYTE ColorIndex>[' '<Byte PenTypeAndWidth>]

ColorIndex – color index from color array

PenTypeAndWidth is defined by bits (number of bit from right to left):

Width – 1, 2, 3, 4, 5 bits

PenType – 6, 7, 8 bits (000 – solid, 001 – dash, 010 – dot, 011 – dash dot, 111 – dash dot dot)

Default value for *PenTypeAndWidth*: 00000001 = 1 (solid type, width = 1)

Brush element draws filling of areas:

<Brush> := 'B'<BYTE BrushTypeAndColorIndex>

BrushTypeAndColorIndex is defined by bits (number of bit from right to left):

ColorIndex –1, 2, 3, 4 bits, binary color index in from color array

BrushType – 5, 6, 7, 8 bits: 0000 – solid brush, if 7 bit is 0, then 5 and 6 bits define three hatch brush types (0001, 0010 and 0011), else – if 7 bit is 1, then 5 and 6 bits define four penetrate brush types (0100, 0101, 0110 and 0111)

Examples of Point type style:

P1DgQ t20 0 149 – symbol "plane" (from "Wingdings" font)

P1De25 25 14 3 – yellow ellipse (circle)

P1De25 25 14 3gQ t20 0 149 – symbol "plane" (from "Wingdings" font) in yellow ellipse (circle)

P1DI0 0 0 1gQ t10 0 148II0 1 1 1gQ t20 0 149II0 2 2 2e25 25 14 3I – symbol "plane" (from "Wingdings" font), increased and made bold if object is highlighted by mouse pointer and rounded by yellow ellipse (circle) if object is selected

Examples of Line type style:

L1CP4 1 – solid red line with width = 1

L1CI0 2 2 2P14 7D-128e7 7 14 7ICP4 1 – solid red line with width = 1, drawn by yellow color with yellow ellipsis (circles) in the nodes if object is selected in the table

Examples of Area type style:

A1CB41P4 1 – blue shaded area with solid border (width = 1)

A1CB41I0 2 2 2P14 7D-128e7 7 14 7ICP4 1 – blue shaded area with solid red border (width = 1), which drawn by yellow color with yellow ellipsis (circles) in the nodes if object is selected in the table

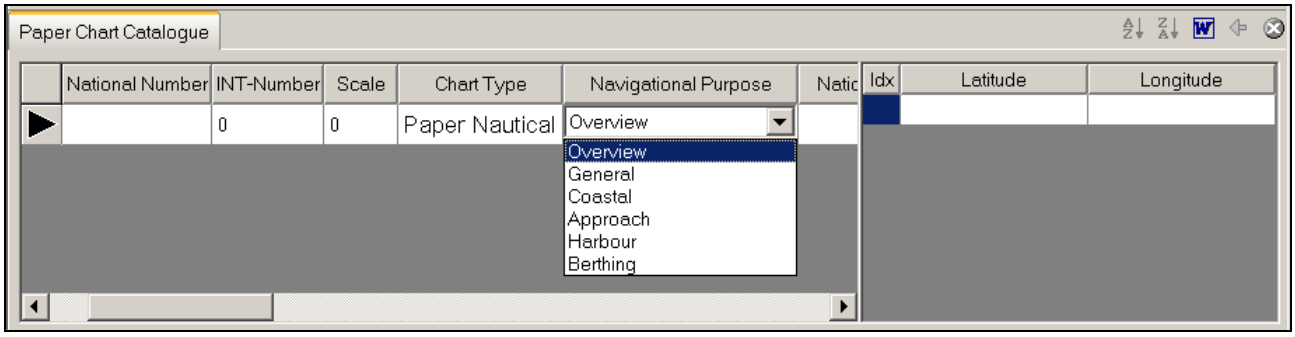
Examples of Note type style:

P1Dg 66t14 2 20 – text from "Tooltip" object field (green color, not bold, not italic, center vertical and horizontal adjustments and "Haettenschweiler" font)

P1CDg 66I0 0 0 2t14 2 20II0 2 2 2t14 2 20 255 14 0 1I – text from "Tooltip" object field (green color, not bold, not italic, center vertical and horizontal adjustments and "Haettenschweiler" font), drawn by the same font but with yellow border if object is selected in the table

APPENDIX D. USING DROP-DOWN LISTS IN LEGEND GRID

You can edit field values in the legend grid by choosing strings from the drop down list:



There are two possibilities to create the list of these strings:

➢ **Create list of strings right in legend file (*.leg)**

Values displayed in the drop-down list are stored in the legend file (*.leg).

You can do it by including **[EnumValue]** section into the legend file and listing string values (divided by";") for those fields from the **Select** parameter in **[SQL]** section (**Table1** is main database table) which must have drop down lists.

In the following example values of **Field1** and **Field2** can be edited only from drop down lists, values of **Field3** and **Field4** can be edited manually:

[SQL]

From=Table1

Select=Field1, Field2, Fiels3, Field4

Editable= Field1, Field2, Fiels3, Field4

[EnumValue]

Field1=Value11;Value12;Value13

Field2=Value21;Value22;Value23

➢ **Get string values from other database table (reference table)**

Values displayed in drop down list are taken from reference table.

There are two ways to design database for this purpose depending on the type of field in **Select** parameter, **[SQL]** section (main database table):

- Field in main database table of **<string>** type

In this case string value is just copied from reference table after choosing it from drop down list. For using values from **StringField** of **Table2** in drop down list of **Field3** you should include **[EnumSelect]** section by the following way:

[SQL]

From=Table1

Select=Field1, Field2, Field3, Field4

Editable= Field1, Field2, Fiels3, Field4

[EnumSelect]

Field3=Select StringField From Table2

- Field in main database of **<integer>** type (reference to ID is recommended)

In this case integer value from ID-field (**IDField)** of reference table (**Table3**) is written after choosing it from drop down list which contains strings from Name-field (**StringField)** of the same reference table.

[SQL]

From=Table1

Select=Field1, Field2, Field3, Field4

Editable= Field1, Field2, Fiels3, Field4

[EnumSelect]

Field4=Select StringField, IDField From Table3

Warning!

StringField *must be the first and* ***IdField*** *must be the second in* ***Select*** *query.*

Useful feature is that you can enter new values for reference tables right in drop down lists. These values will be saved automatically in database. For this purpose you should add **[EnumUpdate]** section and list fields for which you want to enter new values (if section or some field is absent, **NO** is considered):

[SQL]

From=Table1

Select=Field1, Field2, Field3, Field4

Editable= Field1, Field2, Fiels3, Field4

[EnumSelect]

Field3=Select StringField From Table2

Field4=Select StringField, IDField From Table3

[EnumUpdate]

Field3=YES

Field4=YES

Warning!

*If the field in main database of **<integer>** type (reference to ID), as **Field4** in the example, then additional restrictions are imposed to **IDField** in reference table:*

1) It should be assigned primary key

2) It should be of auto-increment type (values must be generated automatically in database)